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ABSTRACT

This activity guide for grades K-12 reinforces the concepts of recycling, reducing, and reusing through a series of youth-oriented activities. The guide incorporates a video-based activity, multiple session classroom activities, and activities requiring group participation and student conducted research. Constructivist learning theory was considered during the development of activities. The guide is divided into the following sections: (1) 12 elementary and middle school classroom activities; (2) eight middle and high school classroom activities; (3) school recycling programs; (4) trivia, facts, and other information; (5) listing of 338 supplementary materials (activity booklets, coloring and comic books, books, catalogs, curricula, extras, magazines, recycling programs, and videos); (6) listing of 39 environmental organizations; (7) approximately 1,300 California local government and community contacts; and (8) a glossary. Many activities incorporate science, history and social science, English and language arts, and mathematics and art. Most activities include methods for teacher and student evaluations. Spanish translations are provided for some activity materials, including letters to parents, several take-home activities and the glossary. (LZ)

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EDUCATION & RECYCLING

EDUCATOR'S WASTE MANAGEMENT RESOURCE AND ACTIVITY GUIDE 1994

Pete Wilson
Governor

Douglas P. Wheeler
Secretary for Resources,
The Resources Agency

Edward G. Heidig
Director,
Department
of Conservation

SE 054 362

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EDUCATION & RECYCLING

EDUCATOR'S WASTE MANAGEMENT RESOURCE AND ACTIVITY GUIDE 1994

Recycle Rex™

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PRINTED ON RECYCLED PAPER

DEPARTMENT OF CONSERVATION Division of Recycling

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TABLE OF CONTENTS

INTRODUCTION ..... *vii*
HOW TO USE THIS GUIDE ..... *ix*
ADDITIONAL EDUCATIONAL RESOURCES FROM THE DEPARTMENT OF CONSERVATION ..... *xi*
ELEMENTARY AND MIDDLE SCHOOL–CLASSROOM ACTIVITIES *1*
Recycle Rex — "Recycle, Reduce, Reuse and Close the Loop" **3**
a. Close The Loop *(lower grades)* 5
b. Close The Loop *(upper grades)* 6
Recycle Rex — "Recicla, Reduce, Reusa Y Cierre El Ciclo" **7**
a. Cierre El Ciclo *(años escolar K-5)* 9
b. Cierre El Ciclo *(años escolar 4-8)* 10
Earth Meets Our Needs! **11**
a. Landfill Bingo — procedures 13
b. Landfill Bingo — teacher's sheet 14
c. Landfill Bingo — student's sheet 15
What's Going On In Here??? **16**
a. Dirt vs. Dirt 18
b. Tierra Contra Tierra 18
What's This Made Of? **19**
a. Sample letter to parents 21
b. Ejemplo de una carta para padres 22
c. Crossword Puzzle — student's sheet *(lower grades)* 23
d. Crossword Puzzle — answer sheet *(lower grades)* 24
e. Crossword Puzzle — student's sheet *(upper grades)* 25
f. Crossword Puzzle — answer sheet *(upper grades)* 26
My Bike Came From Planet Earth!!! **27**
a. Bicycle diagram 28
b. Student's worksheet 29
Just Recycle It! **30**
a. Sorting and categorizing recyclables 31
Take-Home Recycling Kit **32**
a. How to set up your home recycling center 34
b. How to recycle specific items 35
c. Cómo establecer un centro de reciclaje en su casa 37
d. Cómo Reciclar 38
e. The Recycled Diary 40
f. El Diario Reciclado 41
Good Things Come In Many Different Wrappers **42**
a. Sample letter to parents 44
b. Ejemplo de una carta para padres 45
c. Student's worksheet 46
Make Your Own Paper **47**
a. Pulpy Piñata 49
b. Piñata Pulposa 50
The Lorax 51
a. Is it a need or is it a want? *(student/group activity)* 53
b. Removing Earth's Resources *(student/group activity)* 53
Student-Inspired Waste Reduction Plans 54

MIDDLE AND HIGH SCHOOL–CLASSROOM ACTIVITIES *59*
Running Out of Resources **61**
a. Student handouts on manufacturing processes:
(may be used to make transparencies)
1. Glass 63
2. Paper 64
3. Aluminum can 65
4. Steel can 66
5. Plastic 67
b. Energy and Resources *(student's worksheet)* 68
c. Energy and Resources *(teacher's answer sheet)* 69
Take A Bite of the Finite **70**
a. 1993 Estimates of Global Reserve Base 71
Solid Waste: What's My Responsibility? **72**
a. "My Twenty Foot Swath" 75
Garbage: Achieving Its Potential **77**
As the Worm Churns **79**
a. How to prepare a worm composting bin 81
b. 1-2-3 Worm Composting Bin 82
More Is Not Better **84**
Setting Up An In-School Recycling Project **86**
Hitting the Air **88**
RECYCLING IN SCHOOLS *89*
How to set up a school recycling program 91
Distinguished Schools 96
TRIVIA, FACTS AND OTHER STUFF *99*
Aluminum 101
Compost 101
Glass 101
Landfills 102
Oil 102
Paper 102
Plastics 103
Steel 103
Tires 104
Waste 104
Miscellaneous 105
Historical Perspectives 105
Works Cited 106
SUPPLEMENTARY MATERIALS *109*
Activity Booklets, Coloring and Comic Books 111
Books 113
Catalogs 118
Curricula 120
Extras 128
Magazines 130
Recycling Programs 131
Videos 132
ENVIRONMENTAL ORGANIZATIONS *139*
LOCAL GOVERNMENT AND COMMUNITY RESOURCES *161*
GLOSSARY OF TERMS AND COMMON USAGES *195*
GLOSARIO DE TERMINOS Y USOS COMUNES *203*

INTRODUCTION

Con.ser.va.tor n. 1 a protector; guardian; or steward

By definition, the California Department of Conservation is California's conservator: the protector of California's citizens, guardian of California's farmland and steward of California's earth resources. Among its many responsibilities, the Department manages California's earth resources so we are more self-reliant in meeting our energy needs; *and promotes recycling so we have fewer resources going to landfills and more resources for jobs.*

The Education Section encourages California youth to conserve natural resources...

"Recycle, reduce and reuse" is the vital conservation ethic practiced by more and more Californians. The Education Section, within the Department of Conservation's Division of Recycling, encourages California youth to conserve natural resources and diminish their waste production through education and project participation. The publication before you introduces and reinforces *recycling, reducing and reusing* through a series of youth-oriented activities. In addition, students discover that, as consumers, they can "close the loop" by moving beyond recycling to include purchasing recycled products.

This guide incorporates the Unifying Concepts of Environmental Education: to foster awareness of and respect for the environment; to build knowledge of some basic environmental concepts and promote responsible actions toward the environment. Constructivist learning theory was also considered during the development of activities. Students relate activities to their own lives, explore existing conditions, develop alternatives, and interact with themselves and their community — discovering they can impact their futures.

In response to teacher surveys taken at conferences and feedback from the two previous *Educator's Waste Management Resource and Activity Guides,* we have incorporated a video based activity, multiple-session classroom activities, and activities requiring more group participation and student conducted research. We expanded the "Supplementary Materials" section to include many more resources. This publication also provides references to local government and community resources, listing recycling coordinators, recycling center operators, and noting those willing to conduct tours or do in-class presentations.

Spanish translation of some materials

A valuable addition to this publication is the Spanish translation of some materials. Letters to parents, several take-home activities and the glossary are provided in English and Spanish.

Sections of this publication may be copied and distributed, but may not be sold for profit. (Please credit the California Department of Conservation.) We hope you find this publication beneficial in introducing, reinforcing and instilling the *recycle, reduce, reuse and close the loop* ethic in your classrooms.

HOW TO USE THIS GUIDE

Recognizing that educators face multiple demands in presenting curriculum, these activities may be integrated into a number of disciplines. Many incorporate science, history and social science, English and language arts, mathematics and art. Most activities include methods for teacher and student evaluations.

THE GUIDE IS DIVIDED INTO SECTIONS:

1. ***Elementary and Middle School Classroom Activities***— The first section targets elementary and middle school students. Educators will find activities which have basic presentations that may be adapted — depending upon grade level. Most activities include or are followed by handouts or games. Also, for those activities requiring parent assistance, sample letters and parent information are provided in English and Spanish. Creative waste-reducing plans inspired and practiced by children completes this section.

2. ***Middle and High School Classroom Activities***— The second section targets middle and high school students. More research and independent action (outside the classroom) are required. Spanish translations are not available in this section. Less parent involvement is required and students are expected to articulate to non-English speaking parents what they are involved in as well as their needs from parents.

3. ***Recycling in Schools*** — Detailed information on how schools can establish a recycling program offers schools a beginning point in their recycling efforts. This section includes a step-by-step process for establishing a school recycling program and provides ideas and examples of recycling programs from other schools.

4. ***Trivia, Facts and Other Stuff*** — This section provides interesting information related to waste and recyclable materials and their history. Educators may pull information from this section to share with students during presentation of specific activities. This section may also benefit students in development of research papers or presentations. The trivia section is organized alphabetically by material or subject matter (aluminum, compost, glass, landfills, oil, paper, plastics, steel, tires and waste). This is followed by miscellaneous information on litter and its decomposition time and some fun information on historical perspectives.

5. ***Supplementary Materials*** — This section provides names, addresses and brief abstracts of related environmental materials. It contains listings of activity, coloring and comic booklets; books; catalogs; curricula; magazines; recycling programs and videos.

6. ***Listing of Environmental Organizations*** — Environmental organizations with an interest in waste management, provided information for inclusion in this section. Types of information include: organizational mission or goals, services the organizations provide, descriptions of how organizations may benefit educators and students and how to contact the organizations.

7. ***Local Government and Community Contacts*** — This section provides a listing of government officials responsible for recycling efforts in their communities as well as a listing of local certified recycling center operators. Each listee was contacted by telephone and surveyed as to their availability and willingness to perform tours of their facility, in-class presentations and provide informational materials for educators and students. (See the notations following each listing.) The section is organized alphabetically by county; then by city within that specific county.

8. ***Glossary*** — Written in English and Spanish, this section is intended to augment the curriculum, clarifying some terms and their common usages.

ADDITIONAL EDUCATIONAL RESOURCES FROM THE DEPARTMENT OF CONSERVATION

In addition to the information included in this publication, the Department of Conservation provides other educational resources.

RESOURCE CENTER

The Division of Recycling's Resource Center offers a variety of materials available for loan to schools, including books, videos, games, fact sheets, curriculum guides and film strips. (Requests for loans must be on school or organization letterhead.) *The Resource Center Guide* is available by writing to the Department of Conservation, Division of Recycling, Resource Center; 801 K Street, MS 18-55; Sacramento, California 95814 or by calling **1-800-RECYCLE** (in CA only).

CONSERVATION FAIR

The Department of Conservation sponsors a variety of educational events all year long throughout the State. In April, the annual CONSERVATION FAIR, held at the State Capitol, is a celebration commemorating the conservation of California's precious resources. State agencies, environmental organizations and businesses gather to distribute information and conduct hands-on exhibits for children and adults. If your school would like to attend the FAIR, please call **1-800-RECYCLE** (in CA only).

ELECTRONIC BULLETIN BOARD
InfoCycle

Developed as a source of technical and educational recycling information, this electronic bulletin board is accessible by IBM and Apple compatible personal computers. Examples of available information are: materials from this guide, school events and activities, a calendar of conferences and events and a list of who's who in the Division of Recycling's Education Section. The bulletin board is updated continually as new information becomes available. To access with your computer call (916) 445-0518. If you have problems hooking-up, call (916) 445-1490.

FIELD TRIP
California State Mining and Mineral Museum

Located 2 miles south of Mariposa on historic Highway 49, southwest of Yosemite National Park, the museum showcases the state's official gem and mineral collection. Rare gems and minerals from the U.S. and around the world are on display, including the 13 pound "Fricot Nugget" (crystalized gold) and other specimens such as California gold, amethyst and benitoite (California's official gemstone).

Interactive displays include gold panning during the summer months, a permanent 200-foot mine tunnel depicting underground mining techniques of the early 1900's and a working model of a five-stamp gold processing mill.

The tour takes 45 minutes to an hour, depending on the group size. Each child receives a free souvenir mineral specimen. Special school group admission is $1.00 per person. A tour guide will be provided if reservations are made in advance. Call Terry Wallace, tour coordinator, Monday-Thursday, 10am-4pm at (209) 742-7625 for further details.

CLASSROOM MATERIALS
- ***Oil and Gas in California***
- ***Geothermal in California***

These two free booklets provide introductions to oil, gas and geothermal resources in California—from formation and extraction, to refining, distribution and use.

Illustrated in comic book style, the booklets are appropriate for grades four through nine. Classroom sets are available.

Slide shows and videotapes of *Oil and Gas in California* are also available at $15 and $25 each, respectively, prepayment is required. To order, write to the California Department of Conservation, Division of Oil, Gas and Geothermal Resources; 801 K Street, MS 20-20; Sacramento, California 95814-3530. A free list of other publications and reports regarding oil, gas and geothermal development in California is also available on request.

Publications regarding California's geologic hazards and mineral resources

A free listing of the Division of Mines and Geology's maps and reports regarding California's geologic hazards and mineral resources is available. Write to the Department of Conservation, Division of Mines and Geology; 801 K Street, MS 12-30; Sacramento, California 95814-3531.

CLASSROOM VISITS

The Department of Conservation has scientists, geologists, engineers, seismologists and other professionals located in various field offices throughout the state. These experts, depending upon their specialty, are knowledgeable in earth sciences, earthquake and landslide hazards and petroleum engineering. It is possible for local schools to arrange for classroom visits by Department employees from nearby field offices. Classroom visits and participation in special school projects are done on a voluntary basis by an employee, with the permission of their supervisor.

To learn more about potential classroom visits by scientific experts near you, call:

Division of Mines and Geology

Headquarters	(916) 445-1825
Field Offices:	
Los Angeles	(213) 640-3560
San Francisco	(415) 904-7707
Santa Rosa	(707) 576-2275

Division of Oil, Gas and Geothermal Resources

Headquarters	(916) 445-9686
Oil and Gas Field Offices:	
Bakersfield	(805) 322-4031
Coalinga	(209) 935-2941
Long Beach	(310) 590-5311
Sacramento	(916) 322-1110
Santa Maria	(805) 937-7246
Ventura	(805) 654-4761
Geothermal Field Offices	
El Centro	(619) 353-9900
Sacramento	(916) 323-1788
Santa Rosa	(707) 576-2385
Office of Land Conservation	(916) 324-0859

MORE INFORMATION:

The California Department of Conservation,
Contact–Public Information Office
Department of Conservation
801 K Street, MS 24-07
Sacramento, California 95814-3514
(916) 323-1886.

The Educator's Waste Management Resource & Activity Guide 1994,
Contact–The Education Section
Department of Conservation
Division of Recycling
801 K Street, MS 22-57
Sacramento, California 95814
1-800-RECYCLE (in CA only).

Elementary & Middle School Classroom Activities

RECYCLE REX — "RECYCLE, REDUCE, REUSE AND CLOSE THE LOOP."

OBJECTIVES

Students will consider their relationship to their environment. They will develop an understanding of the terms "recycle, reduce, reuse" and "close the loop."

METHODS

Teacher introduces key concepts. Students provide responses to enhance understanding of concepts. After viewing a video, students write or draw pictures.

MATERIALS

Recycle Rex video.

Optional: Writing paper or construction paper, colored pens, crayons, or paints.

NOTE: Most schools have an English version of the Disney video, Recycle Rex. A Spanish version is also available on loan. For more information, contact the California Department of Conservation's Resource Center listed at the beginning of this publication.

PROCEDURE

1. ***Ask students what places they consider special.*** Home, school, playgrounds, parks, etc. Would they consider a garbage dump a beautiful place to go play? How would they feel if their special places were used for garbage dumps (landfills)?

2. ***Explain*** that they are going to see a video of some special characters that nearly lost their playing field to a garbage dump (landfill). These special characters learned there was something they could do to make a difference in whether or not the landfill was necessary.

3. ***View*** Recycle Rex video.

4. ***Discussion items.*** Ask students to respond to questions about the video. Questions to consider might include:

- *Why was the trash being dumped in the field that Rex and his pals wanted to play in? (There was nowhere else to put it because their current landfill was full.)*

- *Who was responsible for the trash being dumped in the field? (They were.)*

- *What did Rex and his friends decide to do with their trash? (Try to find ways to get rid of their garbage without throwing it out.)*

- *What happened when "Turbo" unwrapped the "New, New Yummy Free Sample"? (Turbo got more garbage than goodie: Extra or Extensive packaging.)*

- *What did Ethyl decide to do with her refillable shampoo bottle? (Refill or Reuse it.)*

- *With everything being thrown away, what did Rose say was happening to the earth's natural resources? (Being used up.)*

- *How can you make "old things" new again? (Recycle: Take something used and make it into something new.)*

5. ***Discuss recycle, reduce and reuse*** (to turn something old into something new; lessen the amount of waste generated; adapt for another purpose).

Explain that by recycling and reusing we reduce the amount of resources we need from the earth.

Discussion suggestions:

Consider the recyclability of an item or its container before purchasing it (i.e., catsup comes in recyclable plastic, glass, or nonrecyclable plastic. Which should we buy?).

If an item is nonrecyclable, can it or its packaging be reused? Is the packaging necessary? Use reusable rather than disposable items (i.e., cloth towels rather than paper towels, washable plates rather than paper plates, a lunch box or cloth lunch bag instead of a paper bag, etc.).

Recycling, reducing and reusing decreases the amount of garbage we throw away (that ends up in landfills).

Ask students to provide examples of recycling, reducing and reusing. In addition to typical responses (i.e., aluminum cans, newspapers and glass), encourage creative responses (i.e., siblings sharing clothes and toys, using margarine tubs to store paper clips, etc.).

6. ***Ask students what they think "Close the Loop" means.*** (To purchase items that are at least partially made of recycled material.) When people and schools purchase items such as paper towels, writing paper, napkins, plastic rulers and cereal boxes that have been made with recycled contents, they help to "close the loop."

Follow up activities:

- ❑ Students draw pictures of something they could do to make a difference.
- ❑ Students write about something they could do to make a difference.
- ❑ Have students complete the following word search activity. ***NOTE:*** There are two sheets with differing degrees of difficulty for younger and older students.

Sources: *Disney Educational Productions. Recycle Rex video. Made possible by a grant from the California Department of Conservation to "Keep California Beautiful." To purchase a video, contact Coronet/MTI Film & Video P.O. Box 2649, Columbus, OH 43216. 1 (800) 777-8100.*

CLOSE THE LOOP

Lower Grades

Instructions: *Circle the hidden words within the two boxes.*

MATERIALS THAT CAN BE RECYCLED

- GLASS
- TIN
- WOOD
- PLASTIC
- PAPER
- ALUMINUM

S X I T T O W L
A P L A S T I C
P M B N E I E S
A L U M I N U M
P I C W O O D X
E P Q X O O E A
R Z G L A S S B
I M A G Y R E A

ITEMS THAT CAN BE REUSED

- SHOES
- BOXES
- BAGS
- TIRES
- JARS
- TOYS

P S E R T M O N
M I A B O X E S
A B E X S M J L
T I R E S E A Q
O J T U K I R V
Y M B A G S S L
S K E F D V J N
A L X S H O E S

CLOSE THE LOOP

GRADE 4 & UP

Instructions:
Circle the hidden words within the 3 boxes.

RECYCLE

GLASS
PLASTIC
ALUMINUM
PAPER
BOTTLES
RECYCLE
CANS
BAGS

Q D H Y N B X A O D Y
X C B H K L M T P P X
E F V Z W O U L A E N
L C G M B J A P O P Q
C D A U X S E D Y J S
Y O M N T R C F A S H
C Z T I S W M I Z S V
E V C M S G X J C A K
R W R U I E A L I L W
L S E L T T O B X G J
C J L A I R Z T A C B

REDUCE

WASTE
REDUCE
LESSEN
GARBAGE
WRAPPING
CONSERVE
PACKAGING
CONSUMPTION

N W E D Y P D V B F Z
O P A C K A G I N G C
I T E W B K T W E A U
T X B G N I P P A R W
P D K V G Z D X V B P
M G C L Q K M E G A O
U X Q N E X T P B G T
S E V R E S N O C E E
N B N W A P S V W Z X
O O Z W Q B N E T G M
C P E C U D E R N B T

X V B M P T W Q F H K
S R E N I A T N O C V
F E Z J X Q B S P L E
T S P E O K E X U O T
B O O K S R M N F T Y
U U I S I R C B I H Q
S R Q T X H E J Z E X
S C Z R B Q I T M S L
E E X A F E S U E R A
L S G P T Z Y U N X G
B M E V J E S U R P K

REUSE

RESOURCES
CLOTHES
LUNCHBAG
BOOKS
CONTAINERS
REUSE
TIRES
PARTS

RECYCLE REX — "RECICLA, REDUCE, REUSA Y CIERRE EL CÍCLO."

OBJETIVOS

Los estudiantes considerarán su relación con el medio ambiente. Estos desarrollarán un entendimiento de los términos reciclar, reducir, volver a utilizar, y completar el círculo.

MÉTODOS

El profesor expone los conceptos clave. Los estudiantes darán respuestas para mejorar el entendimiento de los conceptos. Después de ver una película, los estudiantes escribirán o dibujarán.

MATERIALES

Película de Recycle Rex. Opcional: papel para escribir o para dibujar, plumas de colores, crayones, o pinturas.

NOTA: La mayoría de las escuelas cuentan con una versión en inglés de la Producción de Disney *Recycle Rex*. Además, hay a la disposición, para prestar, una versión en español. Si no tiene una copia, comuníquese con el Centro de Recursos del Departamento de Conservación de California que aparece en esta publicación.

PROCEDIMIENTO

1. **Pregunte a los estudiantes cuáles son sus lugares favoritos.** El hogar, escuela, patios de recreo, parques, etc. ¿Considerarían ellos que un basurero es un lugar hermoso para jugar? ¿Cómo se sentirían si sus lugares favoritos fueran utilizados como basureros?

2. **Expliqueles** que verán una película sobre algunos personajes especiales que casi perdieron su campo de juego el cual estuvo a punto de ser convertido en un basurero. Estos personajes especiales aprendieron que había algo que podían hacer para justificar si el basurero era necesario o no.

3. ***Muestre la Película de Recycle Rex.***

4. **Temas de Discusión.** Pida a los estudiantes que respondan a la película. Entre las preguntas que pudiera considerar incluyen:

   - *¿Por qué se estaba tirando la basura en el campo en que Rex y sus amigos querían jugar? (No había otro lugar en donde tirarla porque el basurero existente estaba lleno.)*
   - *¿Quiénes eran los responsables de que la basura se tirará en el campo? (Eran ellos.)*
   - *¿Qué decidieron hacer Rex y sus amigos con su basura? (Trataron de encontrar maneras para deshacerse de su basura, sin tirarla.)*
   - *¿Qué pasó cuando "Turbo" desenvolvió la muestra gratuita del Nuevo, Nuevo Yummy? (Turbo obtuvo más basura que dulce. Empaque excesivo/extra.)*
   - *¿Qué decidió hacer Ethyl con su botella de champú que puede volverse a utilizar? (La volvió a llenar/utilizar.)*
   - *Con todo lo que se tira, ¿qué dijo Rosa que estaba pasando a los recursos naturales del mundo? (Que se estaban agotando).*
   - *¿Cómo puede usted convertir las "cosas viejas" en nuevas otra vez? (Recicle: Tome algo viejo y hágalo nuevo).*

5. ***Discuta los conceptos de reciclar, reducir, y reusar*** (el convertir algo viejo en algo nuevo; reducir la cantidad de desechos generados; adaptarlos para otro propósito).

Explique que al reciclar y volver a utilizar, reducimos la cantidad de recursos que necesitamos del planeta.

Sugerencias para discutir:

Considere la posibilidad de reciclar un artículo o su envase antes de comprarlo. (por ejemplo, el catsup viene en plástico, reciclable, en vidrio, o plástico no reciclable. ¿Cuál debemos comprar?)

Si un artículo no es reciclable, ¿se puede volver a utilizar éste, o su envase? ¿Es necesario el envase?

Utilice artículos que se pueden volver a utilizar en lugar de artículos desechables. (por ejemplo, las toallas de tela en vez de toallas de papel, platos que se pueden lavar, en vez de platos de papel, una *"lonchera"* o una bolsa de tela para el almuerzo, en vez de una bolsa de papel, etc.)

Finalmente, el reciclar, reducir lo que utilizamos, y volver a utilizar algunos artículos disminuye la cantidad de basura que tiramos (que termina en los basureros).

Pida a los estudiantes que le den ejemplos de reciclar y volver a utilizar. Además de las respuestas típicas (por ejemplo, latas de aluminio, periódico y vidrio), anímelos a que den respuestas creativas (por ejemplo, hermanos compartiendo la ropa, los juguetes, utilizando envases de margarina para almacenar sujetapapeles, etc.)

6. ***Pregunte a los estudiantes qué creen que significa cerrar el ciclo.*** (El comprar artículos que son, por lo menos parcialmente, hechos de material reciclado.) Cuando la gente y las escuelas compran artículos como toallas de papel, papel para escribir, servilletas, reglas de plástico y cajas de cereal que se han hecho con materiales reciclados, éstos ayudan a *completar el círculo.*

Actividades que siguen:

Los estudiantes hacen dibujos de lo que pudieran hacer para ayudar a reducir la cantidad de basura.

Los estudiantes escriben algo que pudieran hacer para mejorar la situación.

Haga que los estudiantes completen la actividad de búsqueda de palabras a continuación. ***NOTA:*** Hay dos hojas con diferentes niveles de dificultad para los estudiantes más jóvenes y los mayores.

Fuentes:

Disney Educational Productions. Recycle Rex. Se hizo posible gracias a una beca del Departmento de Conservación de California para "To Keep California Beautiful." Para comprar un video comuníquese con Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
1 (800) 777-8100.

CIERRE EL CICLO

Instrucciones:
Circule las palabras escondidas dentro de los dos cuadros.

MATERIALES QUE SE <u>RECICLAN</u>

VIDRIO	ESTAÑO
MADERA	PLÁSTICO
PAPEL	ALUMINIO

A	L	U	M	I	N	I	O
X	H	K	O	P	J	W	E
Z	P	W	D	F	V	X	S
M	A	D	E	R	A	K	T
W	P	V	R	H	Z	W	A
K	E	J	A	X	P	F	N
P	L	A	S	T	I	C	O
X	Z	V	I	D	R	I	O

ARTÍCULOS QUE SE <u>REUSAN</u>

ZAPATOS	CAJAS
BOLSAS	LLANTAS
JARRAS	JUGUETES

J	G	Z	L	H	J	P	G
F	B	O	L	S	A	S	Z
K	T	Y	A	J	R	W	A
J	V	E	N	B	R	D	P
P	R	Z	T	O	A	T	A
C	A	J	A	S	S	Z	T
Z	B	X	S	G	P	J	O
J	U	G	U	E	T	E	S

CIERRE EL CICLO

Instrucciones:
Circule las palabras escondidas dentro de los tres cuadros.

RECICLE

VIDRIO	BOTELLAS
PLÁSTICO	RECICLE
ALUMINIO	BOTES
PAPEL	BOLSAS

W	R	Q	B	G	F	S	M	K	G	P
R	X	B	O	L	S	A	S	J	F	V
V	O	C	I	T	S	A	L	P	W	G
S	I	M	Z	E	V	R	C	A	I	J
A	B	D	F	L	P	S	K	P	R	G
L	Q	C	R	C	J	B	A	E	Q	Z
L	R	K	H	I	V	Z	U	L	V	X
E	F	P	B	C	O	S	F	C	P	W
T	V	Z	S	E	T	O	B	Z	K	J
O	P	Q	H	R	F	R	J	B	I	H
B	J	O	I	N	I	M	U	I	A	L

REDUCIR

DESECHO	BASURA
REDUCIR	CONSERVAR
MINORAR	ENVOLTURA
CONSUMICIÓN	ENVASE

C	O	N	S	U	M	I	C	I	O	N
D	O	M	P	R	Q	R	C	T	U	X
Z	E	L	B	E	H	X	O	H	E	Q
X	N	S	Y	D	Z	B	N	Q	N	B
W	V	Q	E	U	F	K	S	Q	V	M
Z	O	W	L	C	W	Z	E	Y	A	R
Y	L	K	X	I	H	B	R	K	S	T
Q	T	Q	U	R	Q	O	V	X	E	X
Z	U	M	I	N	O	R	A	R	B	S
F	R	O	Z	X	Z	W	R	Z	F	B
B	A	S	U	R	A	Q	B	Y	W	G

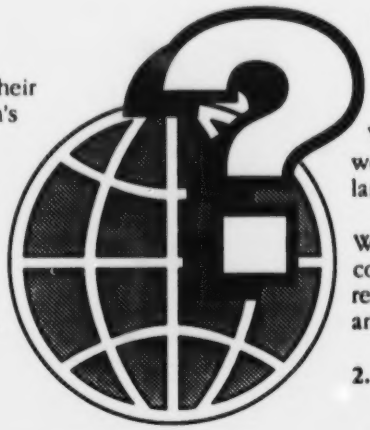
W	T	Y	Q	D	F	K	H	G	J	B
S	T	X	L	Z	F	S	C	Z	P	K
K	O	B	I	D	O	B	R	I	B	F
Z	N	S	B	U	T	N	E	X	A	K
A	P	O	R	Q	L	Z	U	C	L	P
T	S	J	O	U	A	P	S	Z	D	Q
P	L	X	S	S	C	T	A	N	E	W
C	B	O	P	N	V	E	R	L	S	Z
S	A	T	N	A	L	L	R	P	Z	X
Z	L	W	B	Y	Z	U	C	B	T	R
R	E	C	I	P	I	E	N	T	E	D

REUSAR

RECURSOS	RECIPIENTE
ROPA	REUSAR
BALDES	LLANTAS
LIBROS	PIEZAS

EARTH MEETS OUR NEEDS!

OBJECTIVES



Students will consider their relationship to the earth's resources. They will develop an understanding of the terms: resources, reducing, recycling, reusing, nonrenewable, renewable, landfill and composting.

METHODS

Students listen while the teacher reads a brief summary. They provide responses to enhance understanding of concepts. Working in groups, students develop pictures of landfills to present to the class.

MATERIALS

Construction paper or poster board, colored pens, crayons or paints.

PROCEDURE

1. ***Discuss the following with the class:***

- *The impact their birth had on their families, i.e., a new person for the family to feed, clothe, shelter and nurture.*

- *As they grow, how they impact their families, i.e., contribute by preparing food, picking up and taking care of their clothes, keeping the place where they eat and sleep neat and clean so they can enjoy living there.*

From the earth our families get those things that we need to meet our needs. The earth provides the land on which we grow crops for our families to eat. The materials we or others use to make our clothes comes from the earth. Trees supply us with wood products and paper. Minerals, metals and petroleum to make glass, cans and plastic come from the earth. The wood, rocks, or other materials we use to build our homes and places of shelter also come from the earth. The way we take and use these resources affects the earth.

We can continue to enjoy all the earth's resources by taking less from it. We can recycle many of those resources that are nonrenewable (of limited supply).

We can reuse or find new uses for things before we toss them in the garbage to be sent to the landfill (garbage dump).

We can return much to the earth through composting to encourage the regeneration of renewable resources, i.e., provide rich soil for trees and other vegetation vital to human survival.

2. ***Define resources*** (something that can be drawn upon for aid or to take care of a need). Ask students to provide examples of the earth's resources. (The earth's soil grows our crops; oil from the earth helps us fuel our cars, makes plastic and produces electricity to light our homes; water satisfies our thirst, etc.)

3. ***Define recycling and reusing*** (to turn something old into something new; adapt for another purpose).

Ask students to provide examples of recycling and reusing.

4. ***Define reduce*** (to minimize the amount of waste we generate).

Ask students if they can think of ways to reduce the amount of waste they create. (Buy products with fewer layers of packaging or that are packaged in their own wrappers—like fruit and vegetables. Use both sides of paper; use reusable items rather than disposable ones—such as cloth towels instead of paper towels to dry your hands or plastic containers for your lunch in place of plastic bags.)

5. ***Define renewable and nonrenewable.***
   Renewable: The ability to become new again, to regenerate. Some trees are renewable in that when they are harvested, they grow again from the stump; wool is renewable when the shorn sheep grows a new crop of wool for the next season.

Ask students to provide examples of renewable resources.

Nonrenewable: Lacking the ability to make new again; cannot replace what is old or depleted.

BEST COPY AVAILABLE

Ask students to provide examples of nonrenewable resources, i.e., oil, minerals, etc.

6. ***Define and discuss composting and landfill.***
   Composting: Process where microorganisms — bacteria and fungi — breakdown and convert vegetable, fruit and other organic wastes into fertilizer and conditioning soil.

What kinds of waste are compostable? Fruit and vegetable waste, grass, leaves, etc.

Landfill: (A specially designed and operated facility used to deposit waste. The bottom is usually lined with plastic to prevent rain and other water from leaking down through the waste and polluting water tables below. Each day's waste is compacted and covered with soil.)

Recent studies suggest that most waste in landfills does not decompose.

Ask students why they think landfill waste resists decomposition? (Like people, living microorganisms responsible for decomposition need air and moisture.)

7. ***Ask students what types of things they threw in the garbage that day*** (or that week if you need more material).

Have students form groups and draw a group picture of what they think a landfill looks like. Encourage them to include the types of things they threw away that day.

Have each group describe their drawing to the class. (One student or all may contribute in the presentation.)

What types of waste could they have prevented from ending up in their landfill? How?

What types of things in their picture could have been recycled or reused? Which could have been composted?

Play Landfill Bingo. Game sheet follows.

Follow up activities:

Tour a landfill. For information about your local landfill, reference the *Local Government and Community Resources Section* (in the back of this book) to locate your city or county recycling coordinator.

NOTE: This lesson can be introduced in one class period or over two class periods. If two sessions are chosen, a suggested approach might be to perform a review of terms on the second day, followed by student presentations.

LANDFILL BINGO

PROCEDURE

1. Cut the teacher's copy of the bingo sheet into individual squares. Place the squares in a box or hat so that each piece can be randomly chosen.

2. Separate the class into small groups and give each group 1 Landfill Bingo card, (labeled Student's Game Sheet).

3. Randomly choose a square and allow groups to discuss whether the item is recyclable, reusable or will end up in a landfill.

4. If their choice for the item is recyclable, they are to mark R in the corresponding box. If it is reusable, they mark the box with U. If it goes into a landfill, they can cross out the entire box. If the item is both recyclable and reusable, they may indicate so with both R and U.

5. "Bingo" is called when a row (diagonal, horizontal or vertical) of the same options have been identified. Items with both Rs and Us (recyclable and reusable) may be designated as either to make a bingo. For example, if groups have a row with all Rs except for one box with R and U, students will have a bingo.

6. When a group calls a "bingo", have a spokesperson for the group explain why his/her group chose the options for the specific items.

7. Optional: Regardless of whether there is an early bingo or not, continue the game until each item is selected and discussed.

Further on...

Play the entire game until each item has been called. Upon completion, ask each group the number of ways they think they've won the game. Have each group then discuss the rationale behind their choices and have them come up with ideas on how they can reduce landfill waste.

Possible Answers to Landfill Bingo

***R** = RECYCLE*

***U** = REUSE*

***L** = LANDFILL*

NEWSPAPERS - Can be recycled into new paper or reused to make papier-mâché.

MILK CARTONS - Can be recycled into paper towels or reused as storage containers.

DISPOSABLE DIAPERS - Most go to landfills. Postconsumer diapers are neither recyclable or reusable.

YOGURT CONTAINERS - Made from polystyrene, the containers are recyclable and reusable. They can be recycled into new plastic products or reused as storage containers.

SHIRTS - Can be broken down to natural fibers and recycled into new cloth. Shirts can also be reused as pillow stuffing.

LAWN CLIPPINGS - Can be recycled through composting.

OIL - Can be recycled by re-refining it.

LIGHT BULBS - Cannot be recycled nor reused. Most end up in landfills.

GLASS BOTTLE - Can be recycled into a new bottle or reused as a flower vase.

TIRES - Can be recycled into new products (i.e., pens) or reused as bumpers for boats.

FOOD SCRAPS - Can be recycled through composting.

TOYS - Can be reused by giving them to someone else.

CERAMIC CONTAINER - Due to lead contents, this container cannot be recycled; however, it can be used for storage purposes.

ALUMINUM CANS - Can be recycled into new cans or reused as noise makers.

TREES - Can be recycled through composting.

SHOES - Can be reused by donating them.

Landfill Bingo

Teacher's Copy

R=RECYCLE
U=REUSE
L=LANDFILL

R OIL	R,U MILK CARTONS	R,U NEWSPAPERS	R TREES
R LAWN CLIPPINGS	R,U YOGURT CONTAINERS	L DISPOSABLE DIAPERS	R,U SHIRTS
R,U ALUMINUM CANS	R,U GLASS BOTTLES	U CERAMIC CONTAINERS	U TOYS
R FOOD SCRAPS	L LIGHTBULBS	R,U TIRES	U SHOES

23

Landfill Bingo

Student's Game Sheet

R=RECYCLE
U=REUSE
L=LANDFILL

OIL	MILK CARTONS	NEWSPAPERS	TREES
LAWN CLIPPINGS	YOGURT CONTAINERS	DISPOSABLE DIAPERS	SHIRTS
ALUMINUM CANS	GLASS BOTTLES	CERAMIC CONTAINERS	TOYS
FOOD SCRAPS	LIGHTBULBS	TIRES	SHOES

WHAT'S GOING ON IN HERE???

OBJECTIVES

Students are introduced to composting concepts. Organic and inorganic is discussed. Students deduce potential outcomes.

METHODS

Teacher introduces key concepts. Students assist in preparation of a bag of organic and inorganic items. One month later, students observe the results.

MATERIALS

- ❑ one large plastic garbage bag with tie
- ❑ one gallon of wet soil
- ❑ three grapes
- ❑ five pieces of plastic cup
- ❑ handful of grass clippings
- ❑ three lettuce leaves
- ❑ two nails
- ❑ one slice of white bread
- ❑ three squares of wet toilet paper
- ❑ one slice of whole wheat bread
- ❑ notebooks
- ❑ sifting screen

PROCEDURE

1. ***Comment on the fact*** that we talk often about recycling, reducing and reusing. These are important waste management actions, especially for inorganic materials (not of living origins). Inorganic materials resist decay and may never breakdown or decompose. Ask students to name some things that do not readily decay (plastics, foil, styrofoam, glass, etc.).

Ask students to name some things that do decay. (Food, grass, paper, wood chips, etc.)

Can students think of ways to get rid of decayable matter other than throwing it in the trash?

2. ***Have students help mix ingredients.*** Put the gallon of wet soil in the garbage bag. Add the rest of the materials, (except sifting screen) and mix well. While doing this, have students speculate what may happen when all these ingredients get mixed together. Blow up the bag with air and close tightly. (Decaying matter smells if it does not have enough air.)

3. ***Have students prepare a sign.*** Hang a sign on the bag that says "What's going on in here?" Place the bag in a remote spot in the classroom.

4. ***Have students make predictions.*** Ask students to write in their notebooks predictions about what will happen or draw what they think the contents will look like in a month.

NOTE: For older students, graphs or charts tallying their predictions may reveal commonalities. Actual results can then be compared and entered on the graphs or charts.

5. ***During the next month,*** open the bag periodically and mix the ingredients.

6. ***One month later,*** ask students to read the list of materials that were put in the bag. As they read off the list, ask them what they think has happened to each ingredient during the past month (or refer to the class graphs).

Take the bag outdoors and sift the ingredients through the screen. Have students observe the condition of the ingredients.

7. ***Back in the classroom,*** ask students to refer to their original predictions.

What changes did they predict? What actually happened?

8. ***Discuss: Composting is a way to put nutrients back into the soil.***

Compostable items that end up in a landfill often do

not have an opportunity to become food for the earth. (Landfills lack the air and moisture necessary for the composition process to occur.) By recycling food wastes through composting, we give back vital nutrients to the earth. These nutrients help provide fertile soil to grow the foods we eat and support the vegetation that produces oxygen necessary for human survival.

9. ***Work the sifted compost*** into the soil or put at the base of a tree or bush.

Suggested Activities:

Have students perform the "Dirt Vs. Dirt" activity that follows.

This activity adapted and included with permission from:

Adapted from The Growing Classroom by Roberta Jaffe & Gary Appel. Copyright © 1990 by Life Lab Science Program, Inc. Published by Addison-Wesley Innovative Division.

Sources:

Alameda County Home Composting Education Program. 1991. COMPOST. A Teacher's Guide to Activities and Resources in the East Bay.

DIRT VS. DIRT

OBJECTIVE

Reinforce the composting concept learned in "What's Going on in Here."

MATERIALS

- ❑ 1 cup of compost (made from classroom project)
- ❑ 1 cup of regular soil
- ❑ 10 beans (uncooked)
- ❑ 2 small cups/containers

PROCEDURE

1. Fill one cup with regular soil and one cup with compost. For easy identification, label one cup compost and the other soil.
2. Plant five beans in each cup and water; soil should be kept moist.
3. Place cups in a well sunlit area (i.e., on a window sill).
4. For the next few days, or weeks, observe which soil provides better results.

Further on...

Try substituting the beans with other seeds. For a bigger project, try planting a small garden using compost. Compare with plants grown in regular soil, or compare with store bought plants.

TIERRA CONTRA TIERRA

OBJETIVO

Reforzar el concepto de mezcla de tierra orgánica (tierra que se forma de materia orgánica descompuesta) aprendido en "Qué Pasa Aquí."

MATERIALES

- ❑ 1 taza tierra orgánica (hecha del proyecto del salón de clases)
- ❑ 1 taza de tierra regular
- ❑ 10 frijoles (crudos)
- ❑ 2 tazas/envases pequeños

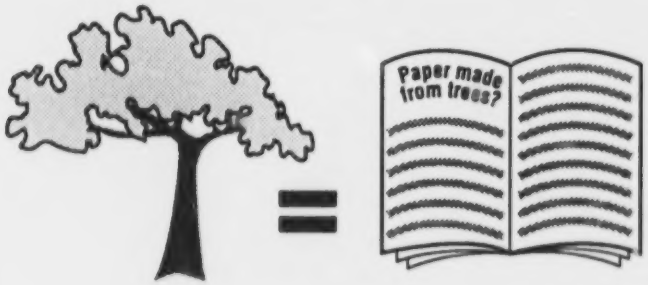
PROCEDIMIENTO

1. Llene una taza con tierra regular y una taza con tierra orgánica. Para la identificación fácil, marque una taza como tierra orgánica y la otra como tierra.
2. Siembre cinco frijoles en cada taza y riéguela; la tierra se debe mantener húmeda.
3. Coloque las tazas en un lugar con buena iluminación solar (por ejemplo, en la base de una ventana).
4. Durante los siguientes días, o semanas, observe cuál tierra proporciona mejores resultados.

Después...

Trate de substituir los frijoles por otras semillas. Para un proyecto más grande, trate de sembrar un pequeño jardín u hortaliza, utilizando tierra orgánica. Compárelo con las plantas que crecieron en tierra común y corriente, o compárelo con las plantas que compra en la tienda.

WHAT'S THIS MADE OF?



OBJECTIVES

Students will identify waste products commonly found in their garbage. They will consider the natural resources used to make certain items and begin to understand the differences between renewable and nonrenewable resources.

METHODS

Students gather waste items from home or school; respond to teacher's introduction of terms and categorize waste items.

MATERIALS

Waste items made of glass, metal, paper and plastic. Samples of sand, minerals (a quartz rock makes a nice sample), wood and crude oil (a picture from a magazine will do).

PROCEDURE

1. ***Several days before the activity,*** ask students to bring items from home they would normally throw away, i.e., plastic milk jugs, aluminum soda cans, newspaper, tin cans, glass jars, but not wire, bolts,or food wastes. You will want to have samples representing each category of natural resource, i.e., glass for sand, aluminum and tin for minerals, paper for wood and plastics for oil. Ask that they carefully wash items before bringing them. (For younger grades, a sample letter to parents is attached.)

2. ***Introduce and discuss terms.*** Explain that the earth's natural resources are used to make many different materials. Some resources (such as trees) are renewable since they can be replaced. Other natural resources are nonrenewable (such as oil and minerals) since they exist in limited quantities.

3. ***Using the sand sample,*** briefly introduce the concept that glass is made of sand, soda ash and limestone (heated together and blown or pressed into shapes we can use for containers and other uses).

Ask students to identify items made of glass.

Ask: What types of waste products did they bring that are made of glass?

4. ***Using the mineral (rock) sample,*** briefly introduce the concept that minerals from rocks (like those found in bauxite ore and iron ore) are used to produce aluminum and steel. These minerals are precious in that while they are found in concentrated areas, those areas are rare and are limited. As such, we consider these resources nonrenewable.

Ask students to identify items made of aluminum, steel, gold and copper.

Ask: What types of waste products did they bring that are made from minerals?

5. ***Using the wood sample,*** briefly introduce the concept that trees supply the wood pulp for paper products. Although trees are considered renewable resources, they must be used wisely or they will be cut down to meet our needs faster than they can be regrown.

Ask students to identify items made of wood products.

Ask: What types of waste products did they bring that are made from wood?

6. ***Using the oil sample (or picture),*** briefly introduce the concept that oil (petroleum) from the earth is used in the production of plastics and many

other synthetic (manmade) products. As with minerals, oil is found in rare concentrations and is limited in supply. It is considered a nonrenewable resource.

Ask students to identify items which are plastic.

7. ***Ask students to suggest ways*** we could reduce our use of nonrenewable resources. (Recycle, reuse items, buy products made of recycled products, etc.)

8. ***Label areas across the chalkboard.*** Make four categories for sand, minerals, wood and oil. Have students, individually or in groups, place/ or label the items they brought for this project under the appropriate source headings, (i.e., newspapers under "wood".)

Encourage students to discuss which group waste items belong to.

Are all items in appropriate categories? Should any items be placed in other categories? Discuss why.

Are any items nonrecyclable?

NOTE: Teachers may wish to consult the *Local Government and Community Resources Section* to obtain information on the types of items typically recyclable in your community. Recycling coordinators listed in that section will be able to answer questions on what is and isn't recyclable.

Follow up activities:

Use the waste items from this lesson for an in-class recycling project. (See "Just Recycle It".)

Sources:

California Department of Conservation. California Geology. July/August 1993. Division of Mines and Geology. 801 K Street, 12th Floor, MS 12-30, Sacramento, CA 95814-3531. (916) 445-1825.

A Way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98540-7600.

SAMPLE LETTER TO PARENTS REQUESTING RECYCLABLES

Dear Parents:

The class is currently involved in discussions and activities dealing with the earth's resources. Students are learning about the resources used to produce items like plastic bottles, newspapers, aluminum and other metal cans and glass products. Once we discuss the resources necessary to produce these items, we will group some of these products in a recycling activity.

It would be a big help if you could send one or more products made of the following substances: plastic, aluminum, paper, steel and glass. (Please rinse things out to help us manage our classroom environment.) I ask that you use your discretion with regard to glass products. If we don't end up with any glass products, I can bring some from my home.

Thank you for your assistance.

Sincerely,

EJEMPLO DE UNA CARTA A PADRES DE FAMILIA PARA PEDIR MATERIALES PARA RECICLAR

Estimados Padres de familia:

Actualmente, la clase está participando en discusiones y actividades que tratan acerca de los recursos del planeta. Los estudiantes están aprendiendo sobre los recursos utilizados para producir artículos como las botellas de plástico, periódicos, latas de aluminio y otros metales y productos de vidrio. Una vez que tratemos sobre los recursos necesarios para producir estos artículos, usaremos algunos de estos productos en una actividad de reciclaje.

Sería de gran ayuda si usted pudiera enviarnos uno o más productos hechos de las siguientes substancias: plástico, aluminio, papel, acero, y vidrio. (Por favor enjuague estas cosas para ayudarnos a controlar el medio ambiente de nuestro salón de clases.) Le pido use su discreción en relación a los productos de vidrio. Si no juntamos ningún producto de vidrio, yo puedo traer algunos de mi casa.

Gracias por su ayuda.

Atentamente,

CROSSWORD PUZZLE

ACROSS

1. Drinking straws and sandwich bags are made of ____.

5. A ____ is made of glass.

7. Soda comes in a ____.

8. To use something over again.

DOWN

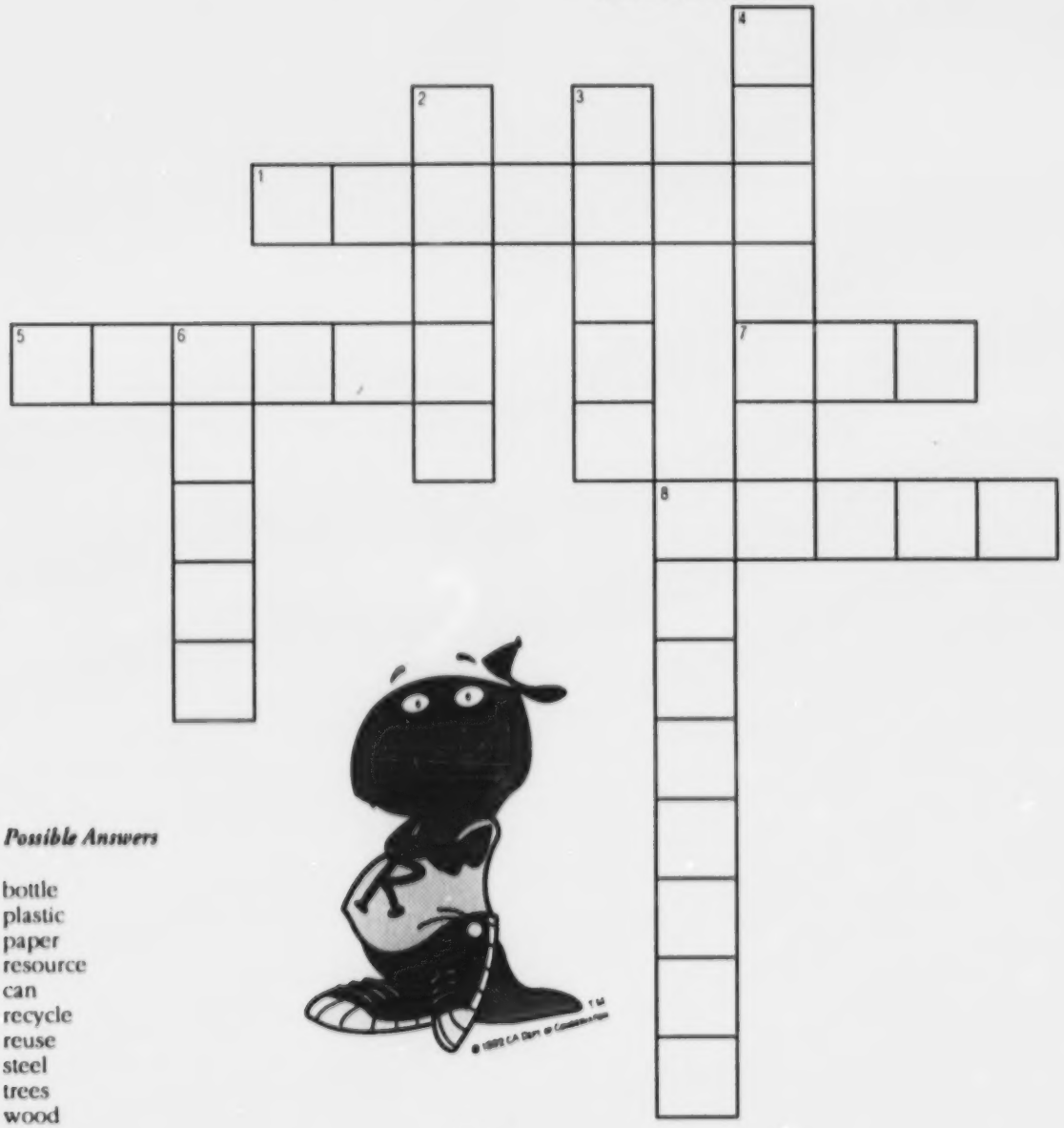
2. Trees are used to make ____.

3. Soup cans are mostly made of this metal,____.

4. To turn something old into something new.

6. Paper is made from ____.

8. An available supply that can be drawn upon when needed____.



Possible Answers

bottle
plastic
paper
resource
can
recycle
reuse
steel
trees
wood

CROSSWORD PUZZLE ANSWERS FOR PREVIOUS PAGE

ACROSS

1. Drinking straws and sandwich bags are made of ____.
5. A ____ is made of glass.
7. Soda comes in a ____.
8. To use something over again.

DOWN

2. Trees are used to make ____.
3. Soup cans are mostly made of this metal,____.
4. To turn something old into something new.
6. Paper is made from ____.
8. An available supply that can be drawn upon when needed____.

CROSSWORD PUZZLE

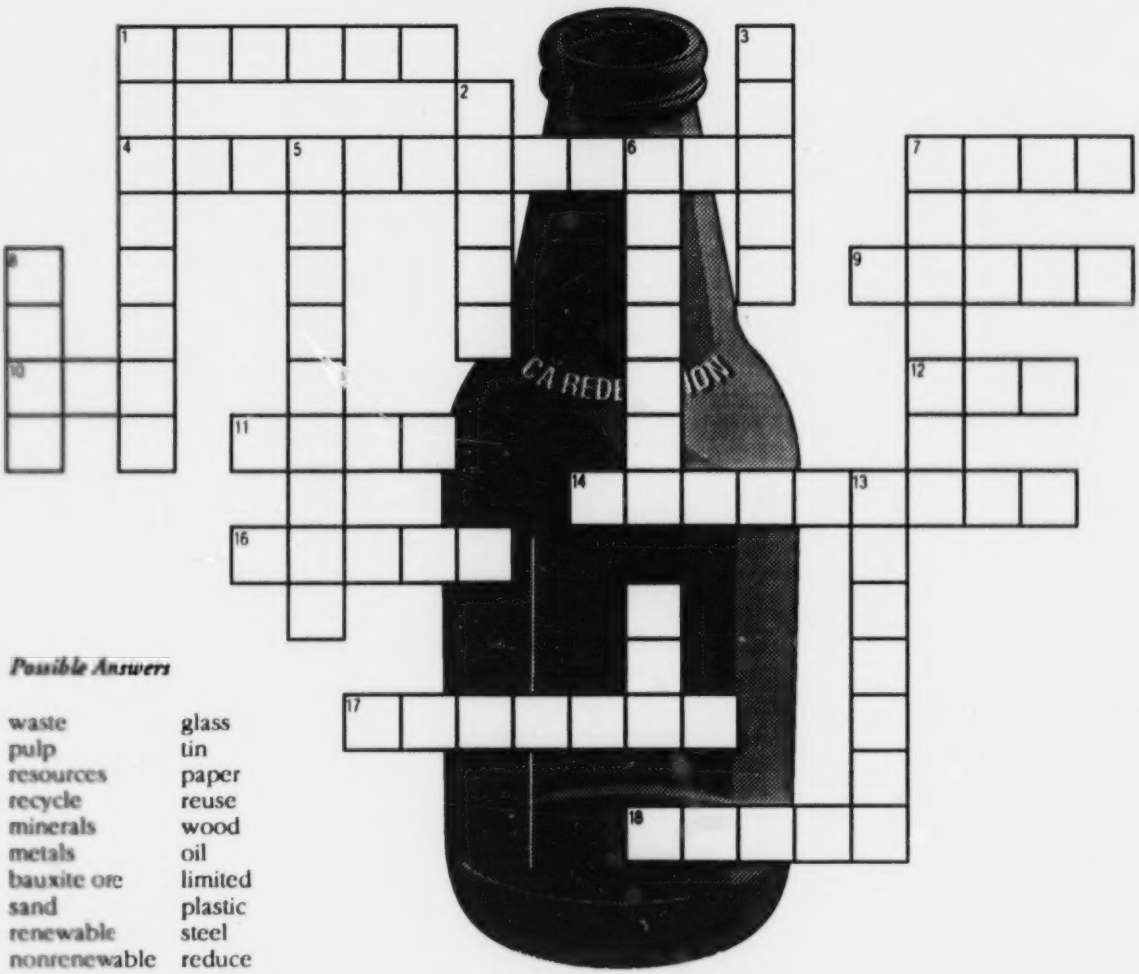
ACROSS

1. Aluminum, tin and steel are _____.
4. Limited resources; cannot be replaced.
7. Fibrous substance from which paper and cardboard are made called wood_____.
9. This recyclable product is made from trees.
10. Nonrenewable resource used to make plastics.
11. Glass is made from this natural resource.
12. Produced from minerals and used mostly as a coating on soup cans.
14. The earth's natural _____.
16. Windows are made of this transparent material.
17. Not an endless supply; restricted amount; rare.
18. Leftover; no longer of use; requires a trip to the landfill.

DOWN

1. Natural elements found in rocks.
2. To use products over again.
3. Some cans are mostly made of this metal; Superman is the "man of ____."
5. Ability to become new again, regenerate; replaceable.
6. Mineral from which aluminum is made.
7. Milk jugs are made from this recyclable product.
8. The pulp used to make paper comes from this product.
13. To turn something old into something new.

** All words are discussed in "What's This Made Of?"*



Possible Answers

waste	glass
pulp	tin
resources	paper
recycle	reuse
minerals	wood
metals	oil
bauxite ore	limited
sand	plastic
renewable	steel
nonrenewable	reduce

CROSSWORD PUZZLE ANSWERS FOR PREVIOUS PAGE

ACROSS

1. Aluminum, tin and steel are _____.
4. Limited resources; cannot be replaced.
7. Fibrous substance from which paper and cardboard are made called wood_____.
9. This recyclable product is made from trees.
10. Nonrenewable resource used to make plastics.
11. Glass is made from this natural resource.
12. Produced from minerals and used mostly as a coating on soup cans.
14. The earth's natural _____.
16. Windows are made of this transparent material.
17. Not an endless supply; restricted amount; rare.
18. Leftover; no longer of use; requires a trip to the landfill.

DOWN

1. Natural elements found in rocks.
2. To use products over again.
3. Some cans are mostly made of this metal; Superman is the "man of ____."
5. Ability to become new again, regenerate; replaceable.
6. Mineral from which aluminum is made.
7. Milk jugs are made from this recyclable product.
8. The pulp used to make paper comes from this product.
13. To turn something old into something new.

** All words are discussed in "What's This Made Of?"*

35

MY BIKE CAME FROM PLANET EARTH!!!

OBJECTIVES

Students learn which raw materials are used to make bikes. Reinforce the concept that products ultimately come from earth.

METHODS

Teacher stimulates students' thinking through a series of open-ended questions. After a question and answer session, teacher leads a discussion on bike parts using a picture or a student's bike. Students draw or diagram their own bike.

MATERIALS

- ❑ bicycle
- ❑ bicycle diagram
- ❑ paper and coloring or drawing pens, pencils or crayons

PROCEDURE

1. ***Teacher asks students*** the following questions:
   - How many students have bicycles?
   - What are bikes made of? (Answers will vary from names of the parts to the natural resources used.)
   - What are the frames made of? (Metals, perhaps plastic.)
   - What are the tires made of? (Rubber.)
   - What are the handle bar grips made of? (May vary from plastics to rubber.) —Where are the metal, rubber and plastic parts made that go into your bikes? (In mills and factories that transform raw materials such as petroleum, bauxite and iron ore into bicycle parts.)
2. ***Discuss the earth's natural resources*** used in making the various parts.
   - Iron ore for the steel parts
   - Petroleum for plastic parts
   - Synthetic fibers and rubber for tires and other rubber parts (also from petroleum based products)
   - Bauxite ore for aluminum parts
   - Coal and other energy sources are used to smelt the iron ore into steel, to process the bauxite ore into aluminum, to process the petroleum into plastics, etc.
3. ***Where do the natural resources come from?*** Direct a discussion that will assist students in recognizing that their bikes are made of resources provided by the earth.
4. ***Use the attached diagram of a bike or have a student bring in their bike.*** If a student bike is used as a model, have students diagram or draw the bike.

   Guide students in identifying the bike's component materials (steel, synthetic rubber, plastic, chrome, synthetic fibers, aluminum, etc.)

   (Students may label their own diagrams if they draw the bike.)
5. ***Discuss the limited availability*** of petroleum, bauxite ore, iron ore, etc. Discuss the concept that these resources are nonrenewable and must be used wisely.
6. ***What happens to old bikes?*** What kinds of things can students think of to reduce the chance of their bikes ending up in a landfill one day?
   - Take good care of their bikes so that they may enjoy them longer
   - Give their bikes to younger siblings or friends
   - Donate their bikes to charity organizations
   - Recycle the parts
   - Repair their bikes with used parts
7. ***OPTIONAL:*** Break the class into groups and have them do the activity following this lesson. They may refer to their bicycle diagram as necessary.

ANSWERS:

1. *Iron ore*
2. *Oil or petroleum*
3. *Synthetic rubber*
4. *Bauxite ore*
5. *Coal*
6. *Minerals*
7. *Oil or petroleum*
8. *Earth's natural resources*

Suggested Activities:

Older students may set up a bike club. Their goals might include discussing, demonstrating and practicing as a group maintenance techniques (i.e., washing, polishing, etc.); assisting one another in the repair of their bikes; assisting each other in locating used or recycled parts for repair of broken bikes; visiting a bike shop; and other activities.

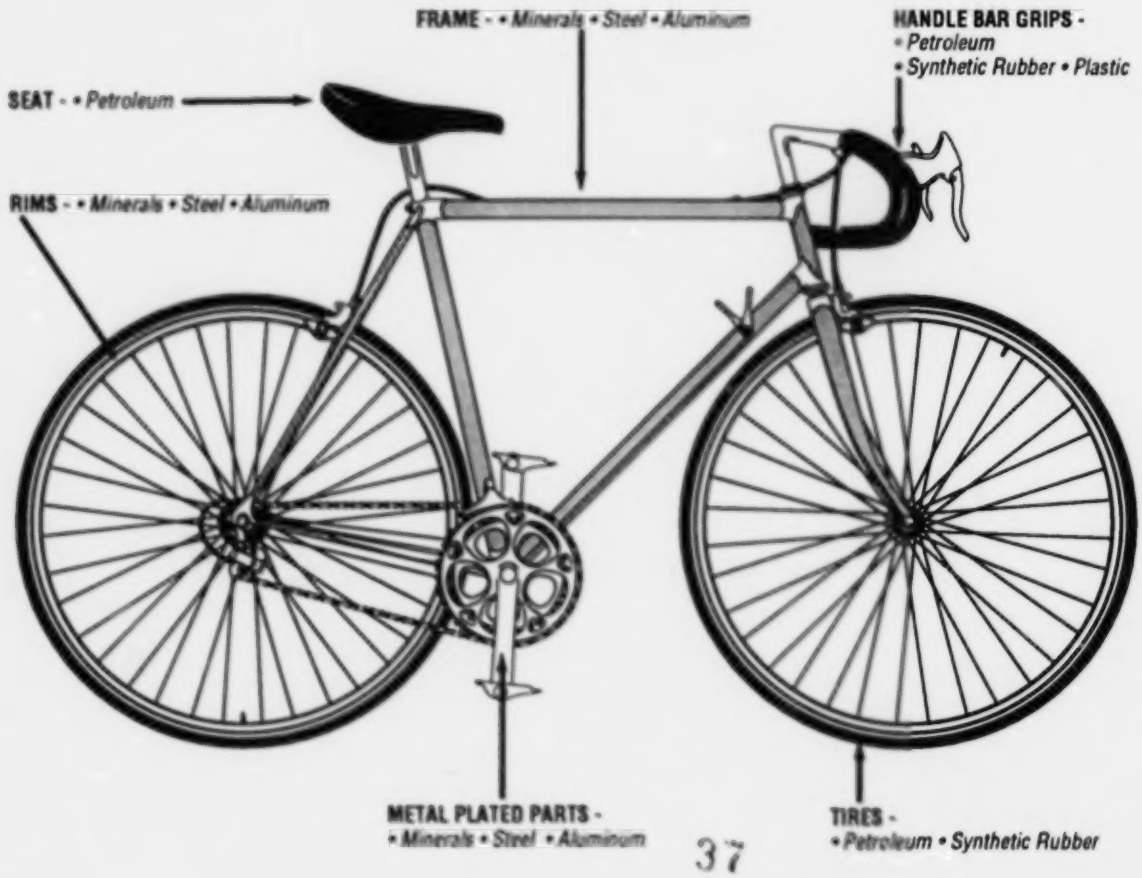
NOTE:

Depending on the make-up of the class, teachers may want to substitute other objects in place of the bicycle. Or, do this activity for several products.

Sources:

A Way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98540-7600.

BICYCLE PARTS: WHAT NATURAL RESOURCES ARE USED?


FRAME - • Minerals • Steel • Aluminum
HANDLE BAR GRIPS - • Petroleum • Synthetic Rubber • Plastic
SEAT - • Petroleum
RIMS - • Minerals • Steel • Aluminum
METAL PLATED PARTS - • Minerals • Steel • Aluminum
TIRES - • Petroleum • Synthetic Rubber

37

INSTRUCTIONS

Find the answers by talking about each clue with your group. Everything you need to know is on the bicycle diagram or was covered in our class discussion.

CLUES

1. This resource is used to make steel products. _____

2. Bike seats may be made from this natural resource. _____

3. This manmade fiber may be used to make bike tires. _____

4. This ore is processed into aluminum. _____

5. _____ is one energy source used to smelt iron ore into steel; to process bauxite ore into aluminum products; and to process petroleum into plastic materials.

6. Bauxite ore and iron ore are _____ and are used to make a bike's metal parts.

7. Plastic handle bar grips originally come from this natural resource. _ _____

8. Bikes come from the _____ .

JUST RECYCLE IT!

OBJECTIVES

Students learn how to sort and store their recyclables. They become familiar with the needs of recycling operators. Students learn how their recyclables are processed.

METHODS

Students decorate boxes for the storing of recyclable items. Recycling operators are contacted to determine recycling requirements. Class takes recyclable materials to recycling operators and observes processing. Recycling industry representatives are invited to speak to class.

MATERIALS

- ❑ waste items gathered during "What's This Made Of?" or plastics, aluminum, glass and paper
- ❑ boxes for storage
- ❑ magazines, scissors and glue, or construction paper and coloring pens, crayons or other colorful markers

PROCEDURE

1. ***Several days before the activity,*** begin contacting recycling center operators. (The *Local Government and Community Resources Section* of this packet contains a listing of certified recycling centers throughout the state of California. The listing notes which recyclers do in-class presentations as well as accommodate tours of their facilities.)

   - Determine what items recyclers will accept and the condition in which they want them. (If using items from "What's This Made Of," you will want a recycler that accepts most of your class collection.) Determine if the recycling facility can accommodate a class tour. (A suggested activity to coincide with redeeming the class recyclables.)
   - Determine if the recycling center operator is available to come to your class for presentations.
   - Ask students to bring some old magazines to class.

2. ***Review terms.*** Review the meanings of renewable, nonrenewable and recycle. Discuss the source materials used in the production of recyclable items, i.e., oil is used to produce plastic products, sand is used to make glass, etc.

3. ***Break class into groups.*** Have students decorate the recycle boxes in groups, using the theme of their item. For example, the glass box may have pictures of some source material (like sand or limestone) as well as pictures of glass.

The number of boxes and groups will vary depending on the needs of the recycling center operator(s) you choose to work with.

Cutouts from the magazines may be used to make a collage on the face of the box or, if magazines are not available, have students decorate boxes with construction paper and drawings.

4. ***Have students place items in their boxes.*** Encourage discussion about the placement of items. What items match their decorative pictures? Consider recycling center requirements, i.e., is it necessary to wash items, smash them, remove caps, bundle paper, etc.?

5. ***Take the recyclable items to the recycling operator.*** Assuming a tour has been prearranged, students will see what happens to their items once they reach the recycler. (An option here is to have the recycler come to the school and do a presentation. Some recyclers have traveling vans and may take the items with them when they leave.)

6. ***Have students write about their recycling experiences.*** (It may be helpful to have a classroom discussion prior to writing about their experiences.)

Suggested Activities:

- Complete the activity following this lesson.
- Combine this lesson with a class recycling drive.

Sources:

California Department of Conservation. California Geology. July/August 1993. Division of Mines and Geology. 801 K Street, 12th Floor, MS 12-30, Sacramento, CA 95814-3531. (916) 445-1825.

INSTRUCTIONS

1. Match each product with its correct recycling bin by writing the name of the item on one of the lines in the bin. (Some items may be placed in two bins.)

2. After each product has been placed in its proper recycling bin, think about what each recycled material can be made into. For example, glass can be recycled and transformed into glasphalt, or paper can be recycled into new paper products.

MILK JUGS

SODA CANS

NEWSPAPER

FOIL

WRITING PAPER

WATER BOTTLES

BROWN LUNCH BAGS

BABY FOOD JARS

BICYCLE FENDER

CARDBOARD BOXES

JUICE BOTTLES

BIG SODA BOTTLES

STATIONARY

PAPER CLIPS

TYPING PAPER

LICENSE PLATES

YOGURT CONTAINER

BASEBALL BAT

STREET SIGN

JELLY JARS

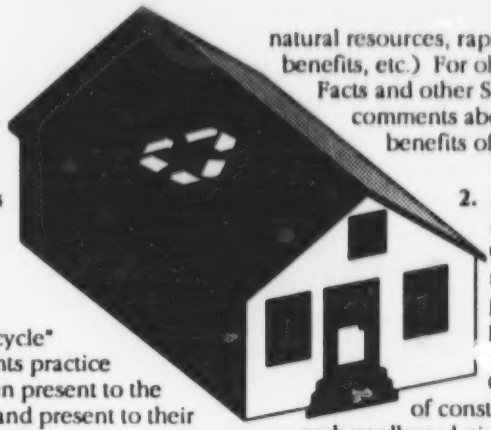
KETCHUP BOTTLES

SOUP CANS

TAKE-HOME RECYCLING KIT

OBJECTIVES

Students will learn it is possible to help solve home and community waste problems. They will be able to explain waste problems to their families and community.



METHODS

Students prepare a "How to Recycle" presentation kit in class. Students practice presentations in groups and then present to the class. Students take kits home and present to their families, neighbors or care providers.

MATERIALS

- ❑ either a cardboard box from students' homes, seven- 8" x 11" pieces of cardboard, or 7 pieces of construction paper for each student (or old file folders cut in half)
- ❑ a piece of used foil and used ribbon or twine (emphasize to students that they are reusing these materials)
- ❑ magazines for each student (or plain paper), marking pens, glue scissors, hole punch, variety of colored construction papers
- ❑ copies of the "How to Recycle" sheets that follow this lesson. (One for each student.)
- ❑ copies of the "How to Set Up Your Home Recycling Center." (One for each student.)

PROCEDURES

NOTE: The "How to Recycle" sheets that follow are general in nature. It may be helpful to contact recycling centers in your community to ensure the listed items are recyclable (revise the lists as necessary). Also, if your community has a curbside recycling program this plan may be altered to accommodate curbside requirements. Contact your local city or county recycling coordinator for more information. See the *Local Government and Community Resources Section* of this publication for listings.

1. Discuss reasons for recycling. (Conservation of natural resources, rapidly filling landfills, economic benefits, etc.) For older classes, refer to "Trivia, Facts and other Stuff" section for interesting comments about waste reduction and the benefits of recycling.

2. ***Have students cut cardboard box*** into seven-8" x 11" pieces. (For younger students you may wish to use construction paper and have the holes pre-punched.)

   Glue different colored sheets of construction paper to one side of each cardboard piece.

   Have students label the top of each piece of construction paper using the following headings: Glass, Paper, Aluminum, Steel, Plastic and Other Recyclables.

   Using the "How to Recycle" sheets, do one of the following:

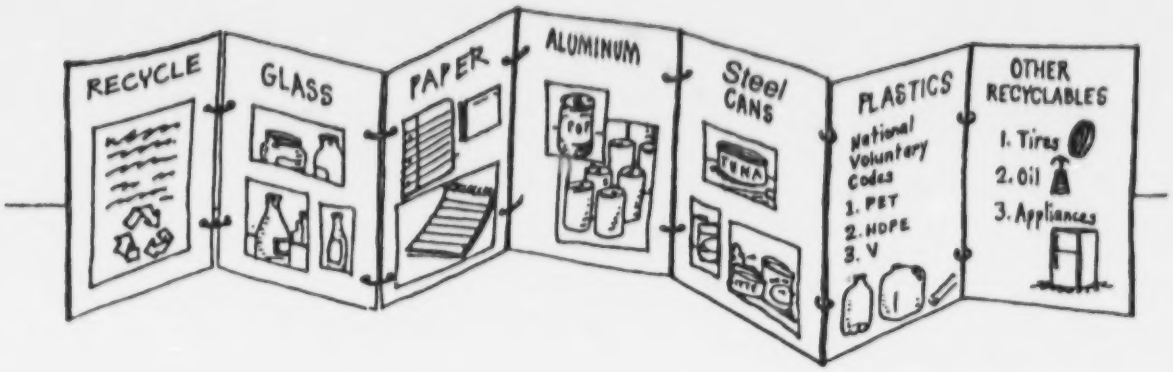
   - ***For younger students*** - copy the sheet for each student. Have them cut the copied sheets on the dotted lines and paste the pertinent information on the bottom of the appropriate card.
   - ***For older students*** - give them the copied sheet and have them transfer the information in a creative manner.

3. ***Using magazines,*** cut out pictures of the different categories of waste. Paste these pictures below the label and above the directions on the corresponding cardboard sheets to form collages. In decorating the aluminum label, incorporate the used foil.

4. ***Ask students to label*** the remaining sheet "Recycle."

5. ***Provide students with "How to Set Up Your Home Recycling Center."*** Read and discuss this information with students. Have students paste their copies on the sheet labeled "Recycle."

6. ***Have students draw floor plans*** of their homes and property, marking places where a home center could be set up. Paste this plan on the back of the recycle sheet.



7. Have students punch two holes on the right-hand side of the "Recycle" sheet; two holes on both sides of the "Paper," "Glass," "Aluminum," "Steel Cans" and "Plastics" sheets; and two holes on the left side of the "Other Recyclables" sheet. (Refer to illustration. Teachers may want to do this for younger students.) Connect sheets with used ribbon or twine.

8. In presenting the kit, have students work in groups and discuss various approaches for presentations. As a group, the students present their kits to the class, or each group may select one group member to present his or her kit to the class. Following presentations and considering class age and diversity, discuss which approaches might be most successful.

9. Allow for more practice (as needed), then have students present their kits to their families and report back to the class on reactions to their presentations.

10. Have students write about their experiences. Things to consider might include: family reactions, changes in their home recycling floor plans, items they felt were more successfully recycled than others and why, and recommendations they might have for future classes doing this activity. ***NOTE:*** See the activity following this lesson for ideas on creating a "Recycled Diary".

11. Discuss other possible community members to whom students might present their kits. (Other family members, care providers, neighbors, PTA members, civil servants, school staff, etc.)

Sources:

A-Way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98540-7600.

HOW TO SET UP YOUR HOME RECYCLING CENTER

Setting up and maintaining your home recycling center can be a fast, easy process. The time required per household is about 73 minutes per month - a little more than two minutes a day.

THE FOLLOWING BASIC STEPS WILL ESTABLISH YOUR HOME RECYCLING CENTER:

1. ***Find a convenient place*** in your home or apartment for the center. It does not take much room. The storage of glass, cans, and newspaper for a month usually takes a 3' x 3' area. The garage, a storage closet, corner of the kitchen, or under the sink are good places.

2. ***Find sturdy containers*** to store materials. Three plastic buckets or cardboard boxes can be used: one for paper, one for cans and plastic, and one for glass. Or, you can use plastic or paper bags.

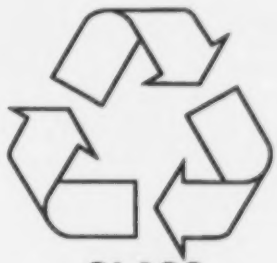
3. ***Locate your closest recycler.*** Contact the California Division of Recycling at **1-800-RECYCLE** (in CA only) to identify your nearest recycling center.

ASK THE RECYCLING OPERATOR THE FOLLOWING QUESTIONS:

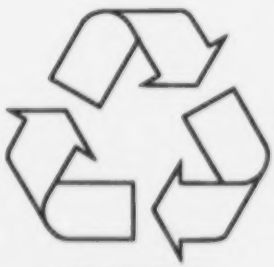
a. Is the center a donation or buyback center?

b. What materials will the center accept?

c. How should recyclables be prepared before bringing them in? (i.e., some recyclers require that glass be separated by color.)



GLASS



CANS & PLASTIC

PAPER

43

HOW TO RECYCLE

HOW TO RECYCLE GLASS

As much as possible, buy returnable or reusable bottles. To prepare glass for recycling, do the following:

- Wash glass - no need to remove labels.
- Check with recycler to see if it is necessary to remove all metal caps and rings.
- Separate glass containers by color, either at home or at the recycling center.

HOW TO RECYCLE PAPER

Separate paper into different stacks based on type of paper. For easy storage, paper can be flattened and put in plastic or paper bags or boxes. The different types of recyclable paper are as follows:

- Newsprint
- Corrugated cardboard (two layers of heavy cardboard with a ribbed section in between)
- Hi-grades (computer paper, tab cards and white office paper)
- Magazines
- Junk mail
- Paperboard (cereal, shoe and macaroni boxes, paper towel rolls and cheese boxes, etc.)

Check to see what types of paper your recycler accepts and how they want them separated.

HOW TO RECYCLE ALUMINUM

- Make certain the cans are all aluminum.
- Rinse. (Flatten if you wish to save storage and transportation space.)
- Separate aluminum cans from other aluminum products; i.e., TV dinner trays and foil.

HOW TO RECYCLE STEEL (TIN) CANS

This category consists of typical food cans: 1 percent tin and 99 percent steel

- Wash them out and remove labels.
- To save space, remove both ends and flatten.

HOW TO RECYCLE PLASTIC

- Ask your recycler what plastic codes they will accept. (Note—Usually LDPE 1 and HDPE 2.)
- Check for plastic identification code on bottom of container. (Look at plastic identification code section on page 201)
- Take off label.
- Rinse out bottles.
- Remove lids and caps.
- Flatten to save space.

OTHER RECYCLABLES

OIL

- Recycle small quantities (Less than 5 gallons in any one visit to centers). Recycling centers accepting oil may pay up to 4 cents per quart. Also, individuals are limited to recycling 5 gallons or less due to Environmental Protection Agency hazardous waste regulations (designed to protect against possible spills).
- Call the California Integrated Waste Management Board in Sacramento at (800)-553-2962 for information and recycling locations.

BATTERIES

- A 4% core charge is placed on the purchase of a new car battery if you do not bring your old battery in for recycling.
- Call the California Integrated Waste Management Board in Sacramento at (800)-553-2962 for information and recycling locations.

OTHER ITEMS

- Tires, appliances, etc. — Call the California Integrated Waste Management Board in Sacramento at (800)-553-2962 for information and recycling locations.

CÓMO ESTABLECER UN CENTRO DE RECICLAJE EN SU CASA

El establecer y mantener un centro de reciclaje en su hogar puede ser un proceso rápido y fácil. El tiempo que se requiere por hogar es aproximadamente 73 minutos al mes - un poco más de dos minutos al día.

LOS SIGUIENTES PASOS BÁSICOS ESTABLECERÁN EL CENTRO DE RECICLAJE EN SU HOGAR:

1. Encuentre un lugar conveniente para ese centro en su casa o apartamento. No toma demasiado espacio. El almacenaje de vidrio, latas (botes), y periódicos de un mes, normalmente ocupa un área de 3' x 3'. La cochera, el armario de almacenaje, la esquina de la cocina, o debajo del fregadero son buenos lugares.

2. Encuentre envases resistentes para almacenar materiales. Se pueden utilizar tres cubetas de plástico o cajas de cartón: una para el papel, una para las latas (botes), y una para el vidrio. O puede utilizar bolsas de plástico o de papel.

3. Localice el centro de reciclaje más cercano a usted. Comuníquese con la División de Reciclaje de California al **1-800-RECYCLE** (en CA solamente) para identificar el centro de reciclaje más cercano.

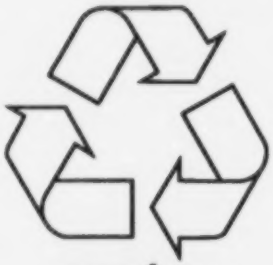
HÁGALE LAS SIGUIENTES PREGUNTAS AL OPERADOR DEL CENTRO DE RECICLAJE:

a. ¿Es el centro uno que acepta donativos o que compra?

b. ¿Qué materiales aceptará el centro?

c. ¿Cómo se deben preparar los materiales para reciclar antes de traerlos? (por ejemplo, algunos recicladores requieren que el vidrio se separe por color).

VIDRIO



BOTÉS Y PLASTICO

PAPEL

CÓMO RECICLAR

CÓMO RECICLAR VIDRIO

Siempre que le sea posible, compre botellas retornables o que se pueden volver a utilizar. Para preparar vidrio para el reciclaje, haga lo siguiente:

- Lave el vidrio - no necesita quitar las etiquetas.
- Verifique con el reciclador para ver si es necesario quitar todas las tapas y anillos de metal.
- Separe los envases de vidrio por color, ya sea en casa o en el centro de reciclaje.

CÓMO RECICLAR PAPEL

Separe el papel en diferentes grupos dependiendo de la clase de papel. Para su almacenaje fácil, el papel se puede aplastar y colocar en bolsas o cajas de plástico o de cartón. Las diferentes clases de papel reciclables son las siguientes:

- *Papel de periódico*
- *Cartón Acanalado* (dos capas de cartón pesado con una sección corrugada entre éstas.)
- *Altos Grados* (papel de computadora, facturas, y papel de cuentas)
- *Revistas*
- *Correspondencia de propaganda*
- *Cartón* (cajas de cereales, de zapatos, de macarrones y de quesos, rollos de toallas de papel etc.)

Verifique para ver qué clases de papel acepta su reciclador y cómo quiere que lo separe.

CÓMO RECICLAR ALUMINIO

- Asegúrese de que todas las latas son de aluminio.
- Enjuáguelas. (Aplástelas si desea ahorrar espacio de almacenaje y transporte.)
- Separe las latas de aluminio de otros productos de aluminio; por ejemplo, charolas (bandejas) de comida congelada y papel de aluminio.

CÓMO RECICLAR LATAS DE ACERO (HOJALATA)

Esta categoría consiste de latas comunes y corrientes de comida: uno por ciento hojalata y 99 por ciento acero

- Lávelas y quite las etiquetas.
- Para ahorrar espacio, quite ambos extremos y aplástelas.

CÓMO RECICLAR PLASTICO

- Pregunte a su reciclador qué claves de plástico aceptan ellos. (Usualmente plástico del tipo LDPE 1 y HDPE 2.)
- Verifique la clave de identificación en la parte inferior del envase.
- Quite la etiqueta.
- Enjuague las botellas.
- Quite las tapas y las tapaderas.
- Aplástelas para ahorrar espacio.

OTROS MATERIALES RECICLABLES

ACEITE

- Recicle cantidades pequeñas (Menos de 5 galones en cada visita a los centros).
  Los centros de reciclaje que aceptan aceite pueden pagar hasta 4 centavos por cuarto de galón. Además, a las personas se les limita reciclar 5 galones o menos debido a los reglamentos de desperdicios peligrosos de la Agencia de Protección Ambiental (Environmental Protection Agency) (diseñados para proteger en contra de posibles derrames).
- Llame a la Directiva de Manejo de Desechos Integrados de California (California Integrated Waste Management Board) en Sacramento al 1-800-553-2962 para averiguar la ubicación de los centros de reciclaje.

BATERIAS

- Se aplica un cargo de un 4% en la compra de una batería de automóvil nueva si usted no trae su batería vieja para reciclarla.
- Llame a la Directiva de Manejo de Desechos Integrados de California en Sacramento al 1-800-553-2962 para averiguar la ubicación de los centros de reciclaje.

OTROS ARTICULOS

- Llantas, aparatos eléctricos, etc. — Llame a la Directiva de Manejo de Desechos Integrados de California en Sacramento al 1-800-553-2962 para obtener información y averiguar la ubicación de los centros de reciclaje.

THE RECYCLED DIARY

MATERIALS

- ❑ one notebook
- ❑ scraps of recycled or recyclable materials (i.e. newspaper, plastic bags, ribbon, colored paper, bottle caps, etc.)
- ❑ colored pens
- ❑ glue
- ❑ scissors

PROCEDURE

1. Look around your house or school for unused or leftover household materials (i.e. newspapers, buttons and plastic bags, ribbon, colored paper, bottle caps, jar lids, etc.). These materials will be transformed into a work of art, so be creative!

2. Gather all of your collected scraps together and begin arranging. You may need to cut some of the larger materials, like paper or plastic, into smaller pieces to be able to work with them. Create your own design on the blank cover of the notebook. HINT: arrange all of the pieces first before you begin gluing.

3. Once you have decided on your design, glue each scrap into place.

4. You now have your own, personalized journal! You may want to use the colored pens to write your name on the front, or even give it a title!

5. Your first entry into the journal will be about what you learned by making your "Take-Home Recycling Kit." Make the journal a "recycling diary," and keep track of each recycling word you learn and all of the recycling projects you do.

Further on...

If you want, begin a list of thoughts on how you can help the environment. Keep track of recycling ideas for the future and for caring about the earth. These can be ways to get more people to recycle, or even environmental advice for the President of the United States!

EL DIARIO RECICLADO

MATERIALES

- ❑ una libreta
- ❑ desechos de materiales reciclados o reciclables (por ejemplo periódicos, bolsas de plástico, listón, papel de color, tapas de botella, etc.)
- ❑ plumas para colorear
- ❑ pegamento
- ❑ tijeras

PROCEDIMIENTO

1. Busque en su casa o escuela artículos domésticos sin usar o sobrantes (por ejemplo, periódicos, bolsas de plástico, listón, papel de color, tapas de botellas, tapaderas de frascos, etc.) ¡Estos materiales se transformarán en una obra de arte, así que sea creativo!

2. Junte todos los desechos que recogió, y comience a acomodarlos. Es posible que necesite recortar los materiales más grandes, como el papel o el plástico, en trozos más pequeños para poder trabajar con éstos. Crea su propio diseño en la cubierta en blanco de su libreta. SUGERENCIA: primero acomode todos los trozos, antes de comenzar a pegar.

3. Una vez que haya decidido su diseño, pegue cada desecho en su lugar.

4. ¡Ahora usted tiene su propio diario, personalizado! ¡Es posible que usted quiera utilizar las plumas de colores para escribir su nombre en el frente, o hasta ponerle un título!

5. Su primera anotación en el diario será acerca de lo que aprendió al hacer su "Paquete de Reciclaje para Llevar a Casa" (Take-Home Recycling Kit). Haga del diario, un "diario de reciclaje", y anote cada palabra de reciclaje que aprenda, y todos los proyectos de reciclaje que haga.

Después...

Si desea, comience una lista de pensamientos sobre cómo puede ayudar al medio ambiente. Tome nota de las ideas para su futuro al reciclar y cuidar la tierra. ¡Estas pueden ser maneras de lograr que más personas reciclen, o hasta dar consejos sobre el medio ambiente al Presidente de los Estados Unidos!

GOOD THINGS COME IN MANY DIFFERENT WRAPPERS

OBJECTIVES

Provide an opportunity for students to observe the differences in synthetic and natural packaging. Students consider methods of distinguishing excessive versus non-excessive packaging. Observe and predict outcomes.

METHODS

Students bring items to school. As a group, the class discusses packaging and determines the potential for biodegradability or compostability versus trash destined for landfills.

MATERIALS

- ❑ letter to parents
- ❑ food items
- ❑ two box lids or trays to display "wrappings" of natural and human made or processed items

PROCEDURE

1. ***Send letter to parents requesting items.*** Revise and copy as necessary the parent letter following this lesson. Determine the lead time required to receive requested items and send to parents as appropriate.

2. ***On the day of the activity,*** lead a class discussion on natural versus human made packaging.

Discuss the types of products produced and wrapped by the earth, sun, water and natural elements. (i.e., fruit, vegetables, eggs, etc.) Discuss the types of products processed and wrapped by man. (i.e., frozen vegetables, frozen fruit juice, canned goods, candy bars, non-food products, etc.)

Working in groups, have the students discuss the items they brought from home.

Which were produced and wrapped by nature?

Which were produced by nature, but processed and wrapped by humans?

Which wrappings would eventually return to nature? (Compostable or biodegradable?)

Which would require a trip to the landfill?

Which could be recycled?

3. ***Have students unwrap their food items.*** Depending on grade level, teachers may want students to eat their food items at lunch or may have students eat their items as a snack. However this is managed, tell students they will need to put their wrappers in the box lids so to be sure *not to throw them out.*

Working in small groups, have students place their wrappers in the box lids. (One box for natural and one for human made or processed.)

4. ***Have students make predictions*** about what may happen to their wrappings over the next few days.

5. ***What does happen*** over the next few days?

6. ***Discuss:*** Sometimes we have to buy things in human made wrappings. However, choices may be made about buying products with excessive packaging. Consideration could be given to purchasing items with packaging that can be recycled or reused if it is not biodegradable.

NOTE: Teachers may want to bring an example of excessive packaging and have the class count the layers of wrapping as they are removed. (Or, a bulk bag of chips may be compared to a wrapped box of individual servings of chips; a recyclable container of apple juice may be compared to individually wrapped single-carton servings of apple juice, etc.)

Recovered and recycled products or packaging become new products and packaging--thus conserving our natural resources.

7. ***Ask students to consider the packaging in their lunches.*** What could they do to reduce some of their waste?

51

Suggested Activities:

a. Students identify ways to get rid of the material in the box lids (packaging from this lesson).

b. Copy and handout the activity following this exercise. Ask students to identify the type of wrapping for the listed products and provide alternatives to those wrappings they consider excessive. Younger students may draw answers while older students may provide more descriptive responses.

c. For older students, consider a trip to the supermarket. (They could do this exercise at home.) Have them find 5 items and describe how they are wrapped. Bring this information back to the classroom and share with classmates. Or: Students may bring one example of excessive wrapping back to class. Students could describe the excessive packaging and suggest alternatives.

d. Discuss excess packaging. Why does excess packaging exist? (Consumer driven.) Is it necessary? What can consumers do about excessively packaged items?

Sources:

County of San Diego, Department of Public Works. ***RAYS: Recycle and You Save.*** *San Diego County Office of Education, 5555 Overland Avenue, San Diego, CA 92123. (619) 974-2661.*

A-Way With Waste. *Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98540-7600.*

San Jose Beautiful, ***K thru 5th Grade Curriculum Lesson Helper,*** *City of San Jose, Department of Recreation, Parks and Community Services, 333 West Santa Clara Street, Suite 800, San Jose, CA 95113 (408) 277-5208.*

SAMPLE LETTER TO PARENTS

Dear Parents:

The class is currently involved in discussions and activities concerning the earth's resources. The activity we are preparing for reinforces other activities involving recycling, waste reduction and conservation. I am asking for your assistance in obtaining some items for this project.

Students are learning about packaging types. Specifically, they are learning how to distinguish between natural versus synthetic packaging. It would be great if you could have your child ***choose one item from each list*** and bring those items to school. (We will incorporate these items into our lunches or snacks.)

List A	*List B*
Orange	*Small box of raisins*
Banana	*Package of M & M's*
Peanuts in shell	*Juice in a box*
Apple	*Canned pudding*
Grapes	*Packaged granola bar*

Other small items with natural packages or human made packages are welcome.

Please send food items by _____

(Date needed by)

Thank you for your assistance.

Sincerely,

EJEMPLO DE UNA CARTA A PADRES DE FAMILIA

Estimados Padres:

Actualmente la clase está involucrada en discusiones y actividades referentes a los recursos del planeta. La actividad que estamos preparando refuerza otras actividades de reciclaje, la reducción de desechos, y la conservación. Les pido su cooperación para obtener algunos artículos para este proyecto.

Los estudiantes están aprendiendo acerca de las diferentes clases de empaque. Específicamente, ellos están aprendiendo a distinguir entre el empaque natural y el sintético. Sería magnífico si usted pudiera dejar a su hijo(a) escoger un artículo de cada lista y traer estos artículos a la escuela. (Incorporaremos estos artículos en nuestros almuerzos o meriendas.)

Lista A	***Lista B***
Naranja	*Caja pequeña de pasas*
Plátano	*Paquete de dulces M & M*
Cacahuates (maní) con cáscara	*Jugo en una caja*
Manzana	*Pudín enlatado*
Uvas	*Barra de Granola empaquetada*

Otros artículos pequeños con paquetes naturales o hechos por humanos son bienvenidos. Por favor envíe los alimentos a más tardar e _____
(Fecha en que se necesitan)

Gracias por su ayuda.

Atentamente,

INSTRUCTIONS

1. Make an **X** in the box identifying whether the wrapping of the listed item is natural or synthetic (human made).

2. If you can think of a less wasteful way to wrap the listed item, write a description or draw your idea in the column "Less Wasteful Wrapping Idea."

Product	*Natural*	*Synthetic* *(Human made)*	*Less Wasteful Wrapping Idea*
Peanuts in a shell			
Doll in a box			
Wrapped burger in a box			
Orange			
Candy bar			
Coconut			
Individually wrapped candy in a box			
Plastic wrapped lettuce			
Shoe box with shoes wrapped in tissue paper			

MAKE YOUR OWN PAPER

OBJECTIVES

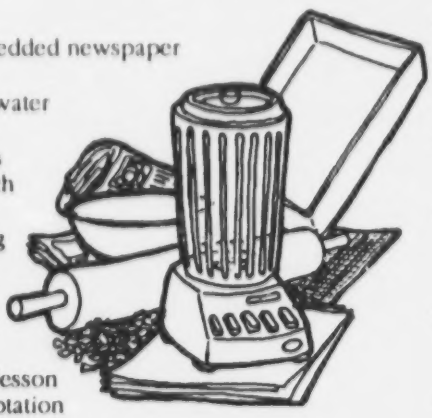
Students will consider alternatives to disposing of used paper. They will learn a process of making paper that approximates that of paper recycling mills.

METHODS

Teacher presents background information. Students then participate in an exercise to make paper.

MATERIALS

- ❑ piece of screen
- ❑ blender or egg beater and a bowl
- ❑ flat dish or pan, slightly larger than the piece of screen
- ❑ 4 pieces of blotting paper or felt the size of the screen
- ❑ 1/2 cup shredded newspaper
- ❑ 2 cups hot water
- ❑ 2 teaspoons instant starch
- ❑ jar or rolling pin



PROCEDURE

1. Preface the lesson with an adaptation of the following:

Ask students what happens to most used paper.

Most paper is thrown away in landfills or is burned. When we recycle paper we save landfill space and utilize valuable wood fibers over again. Making your own paper from old paper is similar to what happens in a paper recycling mill. At a mill, the pulp is put into a machine with a long moving screen. The water drips through the screen. Then the screen moves through parts of the machine that press and dry the pulp. The final product is new paper.

The paper the class makes will be much thicker and rougher than recycled paper made in a mill. Paper mills have many kinds of machines to make the paper smooth and flat.

NOTE: To locate videos demonstrating paper making processes, teachers may wish to consult the video information in the "Supplementary Materials" section.

NOTE: If time is limited, most of the pulp can be prepared the night before. For demonstration purposes, you could prepare one batch in class. (If made in advance, it should be refrigerated to prevent fermentation.)

2. Tear the newspaper into very small bits. Add 2 cups of hot water to 1/2 cup of shredded paper. Beat the paper and water in the blender (or with the egg beater) to make pulp. Mix in starch. Completed pulp should be the consistency of split pea soup.

3. Pour the pulp into the flat pan.

4. Slide the screen into the bottom of the pan and move it around until it is evenly covered with pulp.

5. Lift the screen out carefully. Hold it level and let it drain for a minute.

6. Place the screen, pulp side up, on a blotter on top of newspaper. Put another blotter over the pulp and more newspaper over that.

7. Roll a jar or rolling pin over the "sandwich" to squeeze out the rest of the water.

8. Take off the top newspaper. Turn the blotter sandwich over. Then take off the blotter and the screen very carefully. Do not move the pulp. The remaining product is your paper!

9. Put a dry blotter on the pulp and let the paper dry for 24 hours. ***NOTE:*** For special occasion paper, add colored threads or dried flowers and leaves to the completed pulp prior to the screening process.

Suggested activities:

Ask students to speculate how much paper they use

in one day (napkins, lunch bags, school work, paper cups, newspaper, etc.).

Encourage students to use the paper they made in another art project or coincide this activity with a special occasion in which students may wish to make greeting cards.

Make a papier-mâché piñata (instructions follow this lesson).

Borrowed and adapted with permission from:

Wisconsin Department of Natural Resources, Bureau of Solid Waste Information and Education, Box 721, Madison, Wisconsin 53707.

Sources:

Grummer, Arnold E. Paper by Kids. 1990. Dillon Press Inc., 242 Portland Avenue South, Minneapolis, Minnesota 55415.

PULPY PIÑATA

(papier-mâché project)

MATERIALS

- ❑ a large mixing container
- ❑ flour (amount varies)
- ❑ water (amount varies)
- ❑ a mixing utensil (spoon or fork)
- ❑ a measuring cup
- ❑ a large balloon (one that will get as big as a basketball)
- ❑ pulpy paper: brown grocery bags, paper towels, newspaper, or recycled paper made in classroom
- ❑ string or yarn

PROCEDURE

1. Tear or cut paper into strips; about 1 inch wide and about 4 inches long (measurement does not have to be exact).

2. In the mixing container, combine 3 parts water with 1 part flour. (The necessary amounts of each depend on the amount of mixture desired. For example: 3 cups of flour to every 9 cups of water.)

3. With the mixing utensil, stir the water and flour mixture. Continue to stir until the mixture has reached a smooth, pasty consistency.

4. Inflate the balloon to its maximum state and tie off the end. Tie a piece (length varies) of string or yarn to the tied end. This will be used as a hanging piece for your piñata.

5. Dunk the strips of paper into the mixture, wiping off any excess.

6. Begin applying the strips of paper to the balloon until it is completely covered with one layer. Continue this process until you have 5-8 layers. String or yarn should not be covered by the papier-mâché .

7. Allow the layered balloon to dry. Complete drying may take several days.

8. After the mixture has dried, cut out a small hole (about 2 inches wide) from the tied end of the balloon. The balloon should pop at this moment. However the mixture, if fully dry, should hold the shape of the balloon. The hole serves as an opening to place candies or prizes inside. The hole may be sealed by placing an extra layer of papier-mâché over it.

9. At this point, decorate the piñata to your liking. Try painting a funny face on it, or the picture of our planet. Have fun and let your imagination go wild!

PIÑATA PULPOSA

(Proyecto de Papel Machè)

MATERIALES

- ❑ un recipiente grande para mezclar
- ❑ harina (la cantidad varía)
- ❑ agua (la cantidad varía)
- ❑ un utensilio para mezclar (cuchara o tenedor)
- ❑ una taza para medir
- ❑ un globo grande (uno que se pueda inflar al tamaño de una pelota de balon cesto/basketball)
- ❑ papel pulposo: bolsas cafés de comestibles, toallas de papel, periódico, o papel reciclado hecho en el salón de clases.
- ❑ hilo o estambre

PROCEDIMIENTO

1. Rompa o corte el papel en tiras; aproximadamente una pulgada de ancho y 4 pulgadas de largo (la medida no tiene que ser exacta).

2. En el recipiente para mezclar, combine 3 partes de agua con una parte de harina. (Las cantidades necesarias de cada una depende de la cantidad de mezcla deseada. Por ejemplo: 3 tazas de harina para cada 9 tazas de agua.)

3. Con el utensilio para mezclar, revuelva la mezcla de agua y harina. Continúe revolviendo hasta que la mezcla adquiera una consistencia suave y pastosa.

4. Infle el globo lo más grande que pueda y amárrelo. Amarre un pedazo (el tamaño varía) de hilo o estambre al extremo amarrado. Esto se utilizará como el pedazo para colgar su piñata.

5. Remoje las tiras de papel en la mezcla limpiando el exceso.

6. Comience a aplicar las tiras de papel al globo hasta que está completamente cubierto con una capa. Continúe este proceso hasta que tenga de 5 a 8 capas. El hilo o estambre no debe cubrirse con el papel maché.

7. Permita que el globo cubierto se seque. Es posible que tome varios días para secarse.

8. Después de que la mezcla se haya secado, haga un agujero pequeño (aproximadamente de 2 pulgadas de ancho) del extremo amarrado del globo. El globo debe reventarse en este momento. Sin embargo, la mezcla, si se ha secado por completo, debe mantener la figura del globo. El agujero sirve como abertura para colocar dulces o premios dentro. El agujero se puede sellar colocando sobre éste una capa extra de papel maché.

9. En este momento, decore la piñata a su gusto. Trate de pintar una cara chistosa o el dibujo de nuestro planeta. Diviértase y deje volar su imaginación!

59

THE LORAX

by Dr. Seuss Copyright (c) 1971 by Audrey S. Geisel and Karl ZoBell, trustees under the trust agreement dated August 27, 1984. Reprinted by permission of Random House, Inc.

OBJECTIVES

Provide students an opportunity to consider affects of an imaginary environmental tragedy. Compare the fictional situation to real-life situations.

METHODS

Teacher reads the story to students (or students read the story). Students provide responses to questions.

MATERIALS

- ❑ a copy of *The Lorax* by Dr. Seuss
- ❑ drawing paper
- ❑ color crayons, pens or pencils

PROCEDURE

The Lorax, a children's book by Dr. Seuss, tells of the deterioration of an environment because of thoughtless exploitation of Truffula trees to produce a knitted product called Thneeds.

The Once-ler decides there is money to be made marketing Thneeds. The Lorax (who speaks for the Truffula trees because they have no tongues) thinks it is a frivolous product, but soon Thneeds become a much demanded consumer item.

The Truffula trees are chopped down and become extinct in order to meet the consumer demand for Thneeds. The story goes on to portray the effect of the Truffula tree extinction on other aspects of the environment.

The Brown Bar-ba-loots depend on Truffula tree fruit for their survival and soon must leave to search for other food sources. The Swomee-Swans must move on because of the smog created by the Thneeds factory. Pollutants from the factory gum up the gills of the Humming-Fish and they too must move on in search of cleaner waters.

1. Read the story to the class (or have the class read the story).

2. Discuss the following issues (adapt as appropriate for the class situation):

- How did the Once-ler describe the environment before he began chopping down the Truffula trees?
- Do students think the Once-ler thought the place was beautiful?
- When the first Thneed was knitted, was there a "need" for it?
- What did the Once-ler do after the first Thneed sold?

- What happened to the Brown Bar-ba-loots when many of the Truffula trees were cut down?
- What happened to the Swomee-Swans?
- What happened to the Humming-Fish?
- What happened to the Once-ler's business once the last Truffula tree was cut?
- What message did the Lorax leave for the Once-ler before he left? What do you think it meant?

Beyond the story, discuss:

- Is it possible for our wants to become more important than what we know is good for us and our environment?
- Have students ever wanted something, but once they got it, did not like or need it?
- What kinds of things can we do to help conserve resources?

Discuss the need to use some natural resources while balancing that need against harming our environment. We must consider our needs versus our wants and make wise decisions about how to use resources.

NOTE: Activities following this lesson may be used to reinforce these concepts.

By reducing consumption, reusing materials and recycling, we can manage our resources more effectively.

Suggested Activities:

Students work in groups developing proposals for things they could do as a class to help maintain their environment (conserving, recycling, reusing or reducing class usage of resources).

In their groups, students present proposals to the class. After all proposals are heard, one or a combination may be adopted. The group whose proposal is accepted could take the lead for implementing the project (or selected individuals from several groups).

Some ideas might include:

- A recycling center
- A reusing center for paper that has only been used on one side. (Could be used on both sides before placing in the paper recycling bin.)
- An exchange area where books, toys, or other goods may be exchanged.
- A rotating cleanup crew. (Each week a new group is assigned the responsibility of keeping a designated area litter-free.)
- A no-waste lunch for a week or month.
- Students present information and proposals to other classes.

Sources:

American Forest Council, Project Learning Tree Supplementary Activity Guide for Grades K-6 or 7-12, 1250 Connecticut Ave., NW, Washington D.C. 20036.

IS IT A NEED OR IS IT A WANT?

Homework: Students look through the refrigerator or cupboard. On a sheet of paper, write down five different food items. Be as specific as possible. Instead of writing down drink, write the type of drink, like soda or apple juice.

1. _____

2. _____

3. _____

4. _____

5. _____

Back in class: (In groups, compare lists. Talk about which food items are needs and which are wants. This may be a lively discussion because what seems like a need to one person, may be a want to another.)

REMOVING EARTH'S NATURAL RESOURCES

Either as groups or as individuals, students receive one cream filled-cookie. The mission is to remove the cream from the cookie. This can be done in a number of ways, but is up to the student to decide which way is best.

After students have completed their task, look at the remnants. What has happened? Are the cookies still intact? Are they mostly intact? Are they completely destroyed?

Discuss how some were more effective than others about removing the cream without destroying their cookie. How might this compare to our removal of earth's natural resources? Might some methods of removal be more effective than others? What other types of things can be done to slow the removal of the earth's natural resources?

By thinking about what we need, being cautious about meeting our needs and by recycling and reusing things, we can do something about maintaining our earth's natural resources. We can even have some of those things we may not necessarily need, but want!

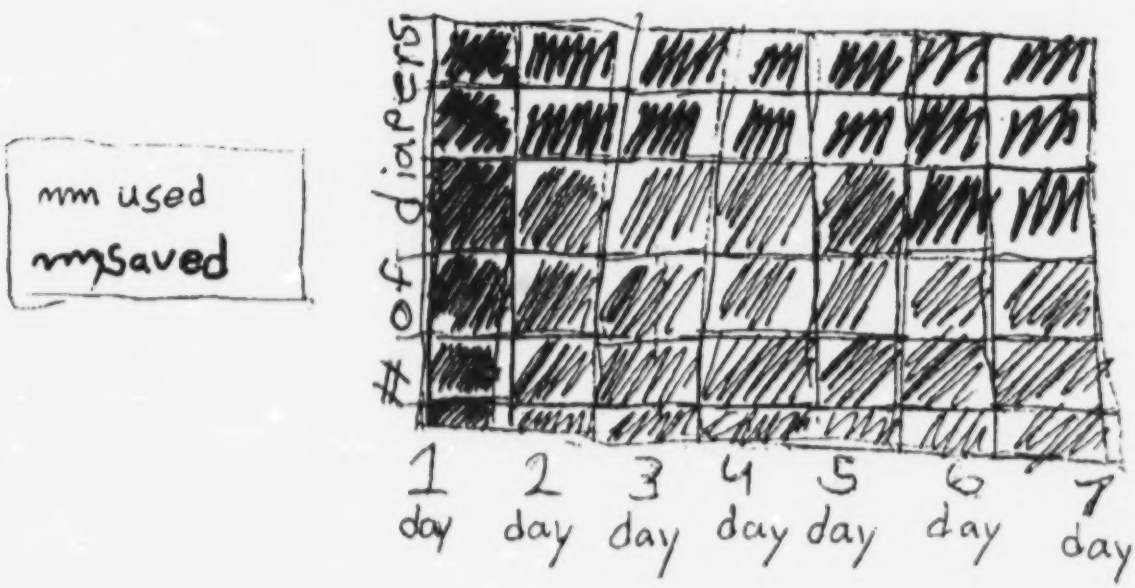
Eat the remnants!

STUDENT-INSPIRED WASTE REDUCTION PLANS

In the fall of 1993, the California Department of Conservation, K-Swiss and Scholastic Inc. sponsored the Waste Busters to the Rescue Contest. The contest challenged students to think of creative ways for their families to reduce waste. Students developed and implemented waste reducing plans, monitoring the results for one week. The following are verbatim samples of plans, illustrations and impressions submitted by students. Some are excerpted, while others are presented in their entirety.

Brynn Shiovitz
Second Grade
Sherman Oaks Elementary
Sherman Oaks

I can try to toilet train my sister, who is 2 1/2 years old. Every time I go to the bathroom I will take my sister with me. And try to get my sister to go on her potty chair normally she uses six diapers a day.



63

Marisa Peck
Third Grade
Woodland Hills Elementary
Woodland Hills

My waste plan is to make sure that what ever we buy is recycle. And that we should use plastic, and glass plates, so that we won't have to throw them away. And we will put our banana peels and our egg shleels and those sort of things in a compost pile. I will start to build an compost pile and put all the things I can in it I think we could make the world a better place.

Abeni E. James Carr
Fourth Grade
Plymouth Elementary
Monrovia

MY PLAN:

I think that we all sould take things like rulers, books, shoe boxes exc. that are out of shape or we don't need anymore and try to use them wisely. Exsame (example) when you buy new shoes and you think you don't need it. Think agin. See the way I see it is that we could take the shoe boxes and put food in it and give to the homeless. Or put important things and pass it on. Or rulers you can take it and make earrings or make baskets. So in otherwords take something you don't need and use it wisely.

The things my family saved: We saved 13 bottles, 15 cans, 6 plates, 36 peelings, no cuttings, 10 market bags, 7 newspapers, 5 shoe boxes. I made a chart and our family's goal was 100 but we made it to 86 as a total. We were 16 short. I hope that everybody recycled like we did.

Andrea Cartwright
Fifth Grade
Country Club Elementary
San Ramon

MY PLAN FOR REDUCING WASTE

Junkmail: You know that stuff that your house hold collects daily adressed to "the resident", you don't need it. You can stop this junk by going to your local post office and signing a form..

Shopping: While in the grocery store, notice the sellections of every product. So many, and wait, out of those products, there's sure to be one that was recycled and is recyclable. Support that company and make an effort to buy recycled and recyclable products.

Brouse that sellection a few more times. Look again at the varieties. Take a second or two to look for the least packaged item. Sure, it doesn't seem like that much, but you are cutting down on that pile of garbage.

Note Pads: When you stick one of those stickies on the microwave or the refrigarator, take into consideration all the paper that you are using after a couple of days of notes. Next time your kid comes home from school, hit him up for notices. Use the back side of the notices for notes. You realy don't need stickies.

Holidays: Next Christmas, take a step back and look at all that wrapping paper, those gift boxes, and of course, the bags. Brouse through that pile and pick out all the reusable items. Those boxes and bags can be reused as well as unripped wraping paper.

Plastics: After you finish that carton of milk, or use up all the butter, take a moment and think of all the uses. Why, a butter container becomes tupperware, a bleach container could be used in an art project. Reuse or recycle these. You can make a diffrence.

Re-Use Baggies: Knowing that the Earth is in trouble, you can make a diffrence by washing and reusing your sandwich baggies and alluminum foil. These oftenly thrown away items can save you money (by washing them) as well as save the enviorment.

Hangers and Paper Bags: Taking a few minutes of your time after a trip to the grocery store or laundrymat, you can sort out your bags and hangers and bring them down on your next trip. Each comunity has at least a few stores that will recycle your bags and hangers, while all you have to do is load them in your car.

Bottles, News, and Cans: Everyones favorite and best known things to recycle must be cans, news papers, and bottles. Most communities have services that come door to door picking up these items while others can be rid of at grocery stores. Either way, it realy helps.

Putting Them to Work: If everyone in the world read my report it wouldn't make any diffrence. To change the world erveryone needs to help. From cans and bottles to milk containers and butter, everyone should take on a role in the conservation of our Earth.

Results

After putting my plan into action, I found I reduced the garbage considerably. On most days the plan reduced the garbage by at least 1/4 of a bag. recycling is good any way you use it. With my plan, you'll realy help.

Shannon Steiner
Sixth Grade
Our Lady of the Assumption School
Ventura

"Reduce, reuse, and recycle" are the by-words of our ecology program to improve the environment and save the earth. My project was to reuse and recycle "throwaways" into P.E. equipment that could be used and enjoyed by my class... This project reduced the amount of trash sent to the landfill by our school cafeteria and my home trash collection.

The attached sheets detail the procedure I followed and the P.E. equipment I created... This experiment was fun, economical and ecologically sound.

PROCEDURE

I interviewed several teachers for suggestions for P.E. equipment using "throwaways"...

I began collecting "throwaways". I collected aluminum foil, aluminum pie pans, # 3 tin cans, 1 gallon plastic milk jugs and water bottles, 2 liter plastic soda bottles, newspapers, old blue jeans, old nylon stockings, tennis ball cans and old tennis balls, plastic grocery bags, styrofoam packing materials, and wire coat hangers.

I recycled the "throwaways" into P.E. equipment. I crumbled the foil to make balls. I punched two holes in the #3 cans and strung a six foot piece of rope through each can to make stilts. I cut the bottom one-fourth off of the plastic milk jugs to make scoops. I filled the gallon water containers with sand and put a dowel in them to use with the rings made by braiding plastic grocery bags. I filled the 2 liter bottles one-fourth full of water to use as bowling pins. I stretched the wire coat hangers into a diamond shape, then slipped a nylon stocking over the diamond and taped it at the bottom to make a handle. These became paddles for the aluminum foil balls. I filled other knee-high nylon stockings with two cups of styrofoam packing material, twisted the stocking, and pulled it back over itself to make a ball. Newspapers were rolled and taped to make batons for relay races. I cut the old blue jeans into six inch squares, sewed them together, and filled them with beans to make bean bags.

When the "throwaways" P.E. equipment was finished, I brought it to school to have (the) fifth grade class test it. We started with a relay race using the newspaper batons, then divided into eight teams and went to eight different centers to use the other "throwaways" P.E. equipment. Each child had an opportunity to use each piece of equipment. The centers were: 1) Bowling using 10 two liter soda bottles and a utility ball, 2) Bean bag throw into #3 cans, 3) Frisbee throw using aluminum pie pans, 4) Nylon paddles used to bat foil balls, 5) Ring toss, 6) Scoops used to catch nylon/ styrofoam balls, 7) Walking on stilts and stilt relay, 8) Tennis cans used to catch tennis balls to practice eye-hand coordination.....

(Continued on next page)

MATERIALS

"Throwaway"	PE Equipment
aluminum foil	crumble to make balls
aluminum pie pans	frisbees
#3 tin cans	stilts, targets for bean bags
1 gal plastic milk jugs	scoops
1 gal plastic water bottle	base for ring toss
2 ltr plastic soda bottles	bowling pins, boundary markers
newspapers	roll for relay batons
old blue jeans	make into bean bags
old stockings	paddles, "snowballs"
tennis ball cans	"catchers" for tennis balls
old tennis balls	balls to use with "catchers"
plastic grocery bags	braid to make rings
styrofoam packing	stuff stockings to make "snowballs"
wire coat hangers	stretch stockings over for paddles.

Jennifer Hsiao
Sixth Grade
Country Club Elementary
San Ramon

INTRODUCTION

Dirtying the air, gases and smoke, flood the sky, enveloping the clouds among it. Litter lies, threatening to the ocean, and its creatures. Flowing in its vast surrounding of water, chemicals filth the fresh water, and turn it, a foul vermilion. All around, the menace of the environment, threatens life. What is to be done? Only conserving the earth's natural beauty can preserve life. Treating it fair, doing no harm, and respecting its last trickle of hope, and once again, the lush of the roaming valleys, the waves, of the roaring sea, and the virgin air of the morning sun, lives on. Life, once again...

Middle & High School Classroom Activities

RUNNING OUT OF RESOURCES

OBJECTIVES

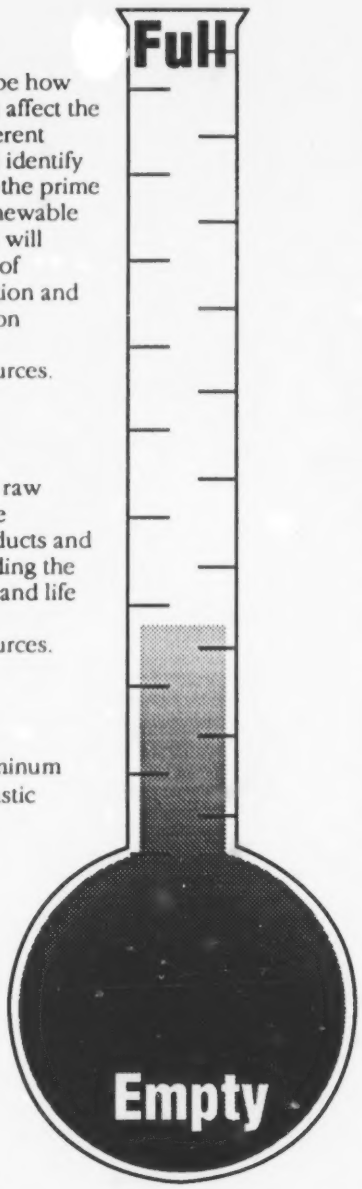
Students will describe how energy supplies can affect the manufacture of different products. They will identify the United States as the prime consumer of nonrenewable resources. Students will describe the effects of increased consumption and population growth on depletion rates of nonrenewable resources.

METHODS

Students review the raw materials used in the manufacture of products and examine data regarding the geographic sources and life expectancies of nonrenewable resources.

MATERIALS

- ❑ glass, paper, aluminum can, steel and plastic manufacturing transparencies
- ❑ Energy and Resources Worksheet *(one per student)*
- ❑ Energy and Resources Teacher Sheet



PROCEDURE

1. Discuss the following background information with students.

Resources are materials or forms of energy that can be used to make other materials. Resources can include raw materials, manmade materials and recycled materials. Raw materials (like iron ore or trees) are obtained from the natural environment and are usually used to start a manufacturing process. Manmade materials (like steel or lumber) are materials or products that have been processed or altered in some way and are no longer in their natural or original state. They can be manufactured from raw materials or recycled materials. For example, glass bottles can be made by mixing and heating sand, soda and lime or they can be made by melting and reforming used glass bottles.

Resources used by humans can be classified as renewable and nonrenewable. Renewable resources are those which can be replaced over and over again. With conservation and proper management, renewable resources such as solar energy, water and trees can last indefinitely. Nonrenewable resources such as iron ore, bauxite ore and natural gas cannot be replaced. The earth only contains a finite or limited supply of nonrenewable resources.

As a result of advances in manufacturing technology, population growth and increasing consumer demands, the consumption of nonrenewable resources has steadily increased in the past four decades. If current trends continue, global supplies of many nonrenewable resources, including aluminum, iron ore, lead, tin, natural gas, oil and uranium, will be depleted within the next century.

Potential desirable strategies for extending the life expectancy of valuable nonrenewable resources include using recycled materials rather than raw materials in the manufacturing process whenever possible, substituting products made from renewable resources for products made from nonrenewable resources and reducing consumption for products made from nonrenewable resources. A less desirable strategy for extending the life expectancy of nonrenewable resources consists of developing new technologies to obtain and use supplies of resources that are currently difficult and/or expensive to acquire (such as mineral supplies in environmentally sensitive areas, like Antarctica). Consumers need to consider their personal rates of consumption and identify ways they can help stem the depletion of nonrenewable resources.

2. Review the raw materials and processes used in the manufacture of glass, paper, metal cans and plastic. (Distribute copies of the manufacturing sheets following this lesson or make transparencies and display them to the class.

Teachers may distribute copies to the class or, to save paper and foster cooperative learning, have the class work in groups and distribute copies to each group.)

3. Distribute copies of the Energy and Resources Worksheet. Review the table in Part 1. Explain that one Btu (British Thermal Unit) is the amount of heat energy needed to raise the temperature of one pound of water, one degree Fahrenheit. It is a common unit of energy used by engineers.

4. Instruct students to refer to Part 1 of the worksheet and discuss the following questions:

   - Which manufacturing processes are more energy intensive?
   - Which manufacturing processes are less energy intensive? —What are the Btu requirements for manufacturing each product when recycled materials are used in place of raw materials?
   - What product saves the most energy when recycled materials are used for manufacture?
   - What product saves the least energy when recycled materials are used for manufacture?
   - What happens to the energy in these products when they are thrown away? Burned? Recycled?

Have groups (or students) answer questions 1 and 2 on the worksheet.

5. Define the term "resource." Review the difference between a renewable resource and a nonrenewable resource; and provide examples of each. Ask the following questions:

   - What clothing materials come from renewable resources? Nonrenewable resources? What packaging materials come from renewable resources? Nonrenewable resources?

6. Review Part 2 of the worksheet. Explain that the resources used to manufacture many products are: nonrenewable, in limited supply and not found in the U.S. Conduct a whole class discussion addressing the following questions:

   - What is static use?
   - Why are projected rates of use greater than static rates of use?
   - Is the actual use of these materials static or increasing at the projected rates?
   - What influence does an increase in human population have on the rate of use of resources?
   - What resources are not found in the United States?
   - What country or area has the greatest overall reserves of these resources?
   - What is the U.S. present relationship with some of the countries which contain these resources? Why is dependence on other countries for resources a problem at times?
   - How can we as individuals help stem the depletion of nonrenewable resources?

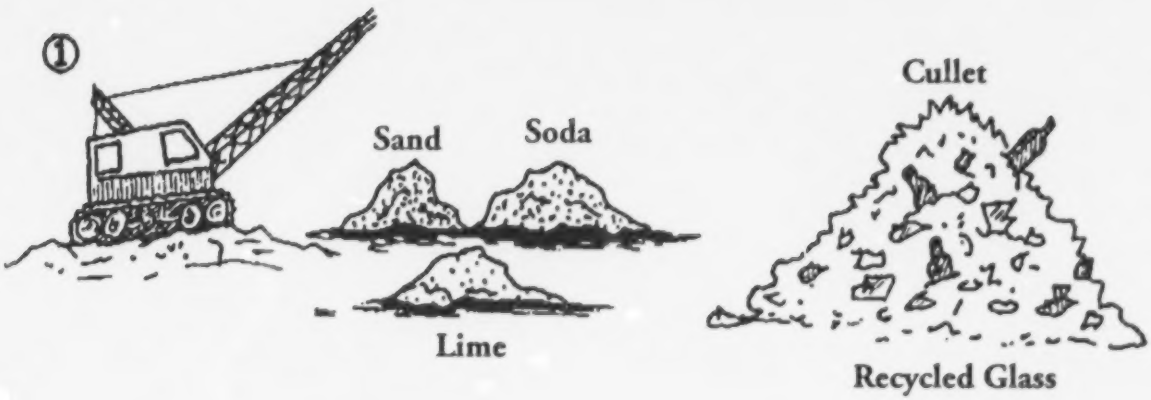
List all the ideas generated by students on the board. Have students answer questions 3 and 4 on the worksheet.

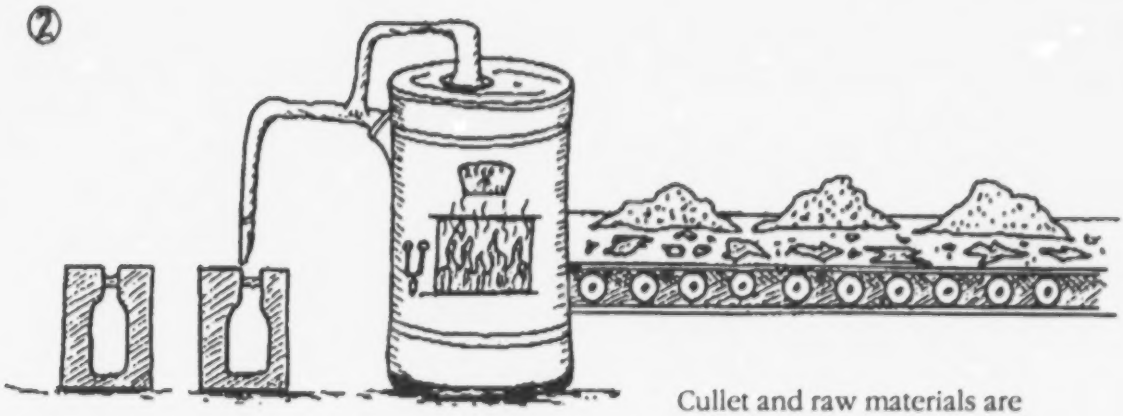
7. Tell students that our earth is so rich in resources that some people say there actually may be plenty of resources available — for a price. But it may take more energy, equipment and environmental degradation to get these less easily obtained resources out of the earth. Ask students to identify the pros and cons of locating and acquiring less obtainable resources.

This lesson adapted and included with permission from:

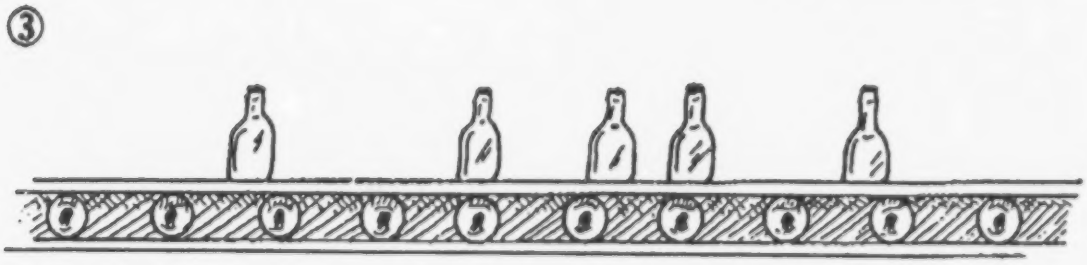
Florida Department of Education, Educational Materials. Room B1, Collins Building. Tallahassee, FL 32399-0400. (904) 487-7900.

GLASS MANUFACTURING





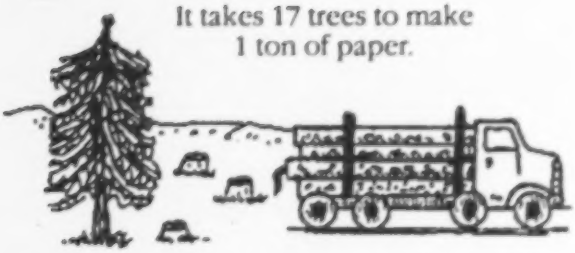
Cullet and raw materials are melted together. The melted mixture is poured into molds and injected with air. The mold is removed and the glass is cooled and shipped.



PAPER MANUFACTURING

①

It takes 17 trees to make 1 ton of paper.



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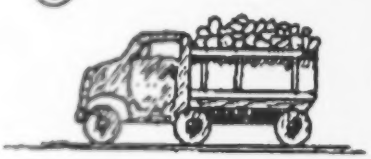
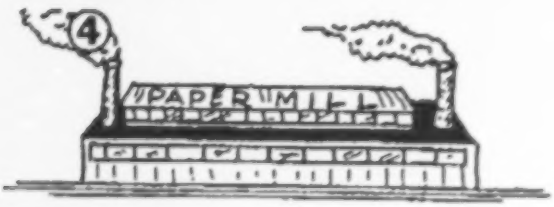


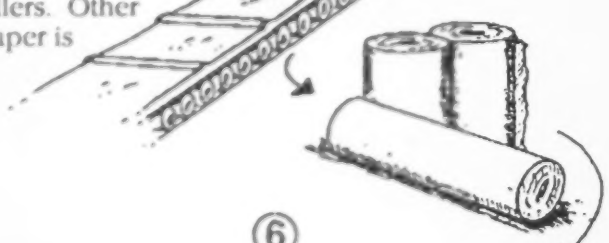
Wood waste from lumberyards is recycled to make paper.

④



⑤ Used paper is de-inked by washing and rinsing it in large vats of water.

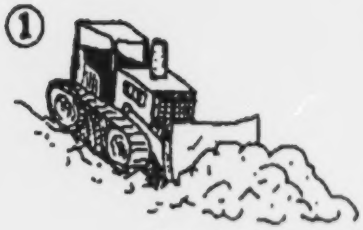
Sometimes used paper and wood wastes are combined, mixed to a pulp and poured onto large rollers. Other times, mostly used paper is processed again.



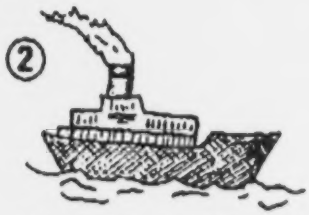
⑥

The rolls of new paper are used to make newspapers, drawing paper, computer paper and many other kinds of paper.

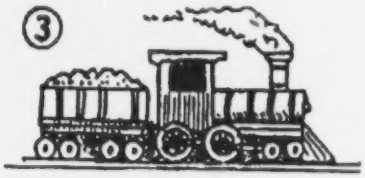
ALUMINUM CAN MANUFACTURING



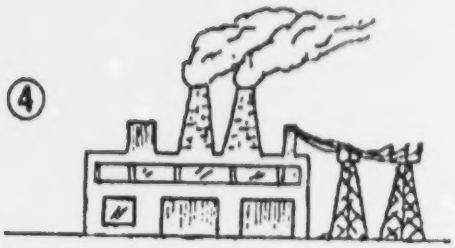
Bauxite is mined...



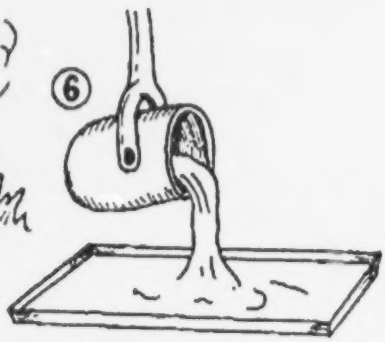
shipped to the U.S. and...



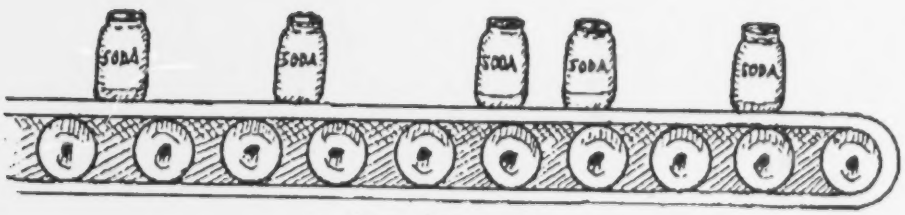
transported to factories.



Electrolysis separates the aluminum from bauxite.



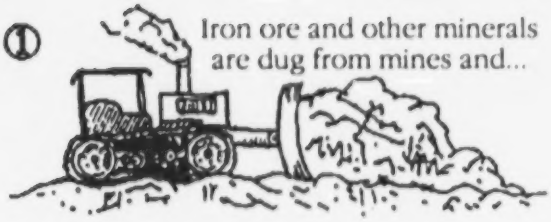
Aluminum is poured into flat sheets and later...

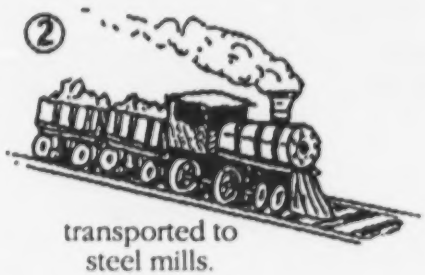


...shaped into cans.

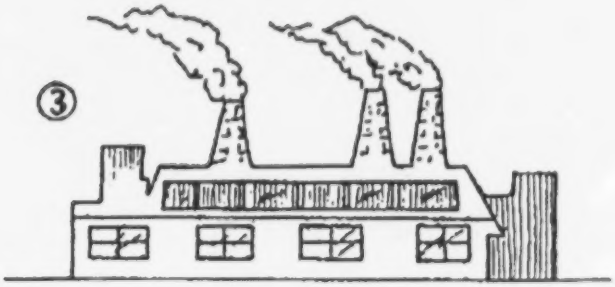
STEEL CAN MANUFACTURING

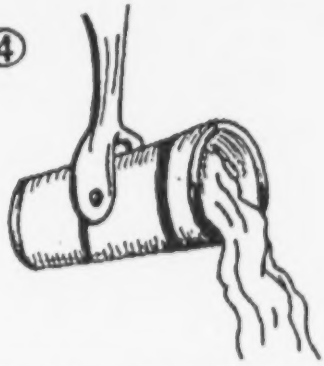
① Iron ore and other minerals are dug from mines and...



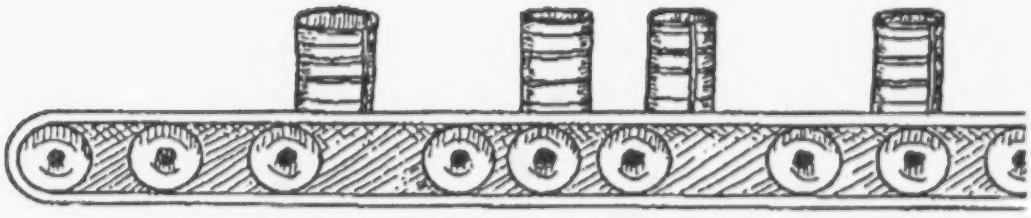
② 

transported to steel mills.

③ 

④ 

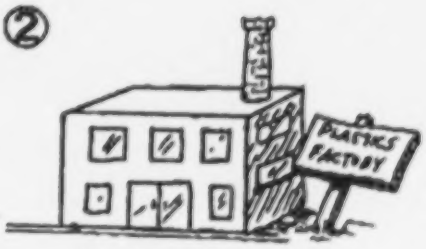
The minerals are heated in large vats and poured onto sheets.

⑤ 

The steel is coated with tin and shaped into cans.

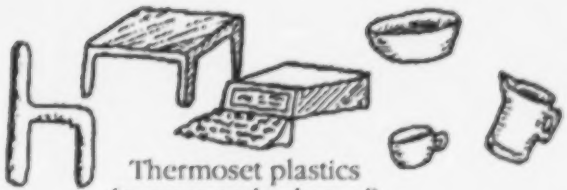
PLASTIC MANUFACTURING

Fuels (oil) and natural gas are refined and changed with heat and chemicals to make resins.



Resins make...

Thermoplastics (soft & moldable when subjected to heat)



Thermoset plastics (permanently shaped)

Some plastics are taken to recycling centers and others are burned to recover their energy.

Most plastics are thrown away even though they are recyclable.

Student's Sheet
Part 1
ENERGY & RESOURCES

Energy Requirements Using Raw Materials for Manufacture		*Energy Savings Using Recycled Materials for Manufacture*	
Paper	20,373 Btu/lb	Paper	30-55%
Glass	7,611 Btu/lb	Glass	8-32%
Steel	14,778 Btu/lb	Steel	47-74%
Aluminum	98,560 Btu/lb	Aluminum	95%
Plastic	18,532 Btu/lb	Plastic	60-70%

1. Which industries will be hard hit in the next energy crisis? Why? _____

_____

2. In what two ways would the plastics industry be affected if oil prices rose sharply? _____

_____

Part 2
NONRENEWABLE NATURAL RESOURCES:
Life Expectancies and Prime Consumers

Resource	*Reserve Base*	*Countries or Areas with Highest Reserves*	*Prime Consumers*	*Life Expectancy*	
				Static use at current level	*Use growing at projected rates*
Aluminum in Bauxite	23.2 Billion metric tons (metric ton= 2,200 lbs.)	Guinea 25% Australia 20% Brazil 13% Jamaica 9%	USA 42% USSR* 12%	312 years	63 years
Iron in Ore	98 billion short tons (short ton = 2,000 lbs.)	USSR* 26% Australia 21% Brazil 11% Canada 10% S. Africa 7% USA 6%	USA 28% USSR* 24% W. Germany** 7%	172 years	62 years
Lead	142 million metric tons	Australia 20% USA 12% Canada 10%	USA 25% USSR* 13% W. Germany** 11%	37 years	25 years
Tin	4.2 million metric tons	Malaysia 26% Indonesia 16% Brazil 15% China 9%	USA 24% Japan 14%	41 years	31 years

3. List the prime consumer of each resource. Aluminum: _____
Iron ore: _____ Lead: _____ Tin: _____

4. If consumption grows at projected rates, which resource will be the first to be depleted? Next? List in order. Next to these, list how old you will be when the resource is depleted.

1. _____ *2.* _____

3. _____ *4.* _____

** Referring to the former USSR prior to 1993.*
*** Referring to West Germany prior to its unification with East Germany.*

Teacher's Sheet
Part 1
ENERGY & RESOURCES

Energy Requirements Using Raw Materials for Manufacture		*Energy Savings Using Recycled Materials for Manufacture*	
Paper	20,373 Btu/lb	Paper	30-55%
Glass	7,611 Btu/lb	Glass	8-32%
Steel	14,778 Btu/lb	Steel	47-74%
Aluminum	98,560 Btu/lb	Aluminum	95%
Plastic	18,532 Btu/lb	Plastic	60-70%

1. Which industries will be hard hit in the next energy crisis? Why? *All industries, especially aluminum; it takes a lot of energy to manufacture aluminum from raw materials.*
2. In what two ways would the plastics industry be affected if oil prices rose sharply? *1) Plastics are made from petroleum. 2) It takes energy to make plastic.*

Part 2
NONRENEWABLE NATURAL RESOURCES:
Life Expectancies and Prime Consumers

Resource	*Reserve Base*	*Countries or Areas with Highest Reserves*	*Prime Consumers*	*Life Expectancy* *Static use at current level*	*Use growing at projected rates*
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3. List the prime consumer of each resource. Aluminum: *USA*
   Iron ore: *USA* Lead: *USA* Tin: *USA*
4. If consumption grows at projected rates, which resource will be the first to be depleted? Next? List in order. Next to these, list how old you will be when the resource is depleted.
   1. Lead *2. Tin*
   3. Iron *4. Aluminum*

** Referring to the former USSR prior to 1993.*
*** Referring to West Germany prior to its unification with East Germany.*

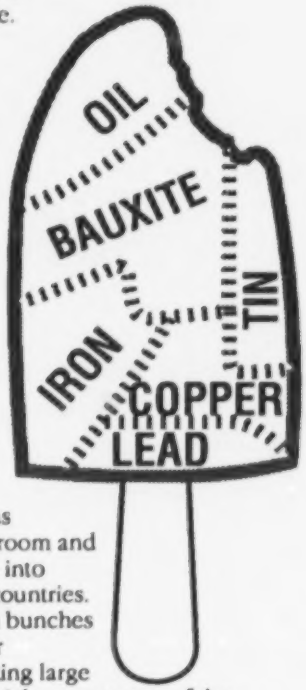
TAKE A BITE OF THE FINITE

OBJECTIVES

Students will discover that some resources, including resources lost to waste disposal, are finite.

MATERIALS

❑ Colored beads (see chart that follows)



PROCEDURE

1. Select beads of different colors to represent resources that often end up as wastes (refer to 1993 Estimates of Global Reserve Base).

2. Hide beads and coins throughout the classroom and have students divide into teams representing countries. (Hide some beads in bunches and others in smaller groupings, representing large and small findings. Make sure some of the beads are hidden well so that they will not be immediately found.)

3. Perform two separate explorations to find beads. Allow teams time intervals of two minutes for the first exploration and one minute for the second.

4. After exploration have students:

   - Separate and identify the mineral represented by each color of bead.
   - Discuss the greater difficulty in finding resources during the second exploration.
   - Discuss what is required to explore for and obtain resources (i.e., energy).
   - Is energy a renewable or nonrenewable resource?
   - What is happening to world population?
   - What effect will rapid population growth have on the future availability of nonrenewable natural resources?
   - Is competition for resources emerging among other countries? Think of examples.

5. After exploring, have students jumble the resources together. Ask:

   - What is this jumble of resources like? (A dump.)
   - What did it take to get these resources into usable condition in the first place? (Energy, refining, separation.) —What is necessary to keep these resources in the cycle of use? (Separation, reusing and recycling.)

For older students:

- What is entropy? Why is jumbling resources together and throwing them away an example of entropy? What is the Second Law of Thermodynamics? How is wastefulness related to the Second Law?
- If students have completed the exercise "Running Out Of Resources" they will have predicted their approximate age when nonrenewable resources are projected to be depleted. What effect do students predict resource depletion will have on their lives?

6. What can students do to extend the life of finite resources? What are the advantages of extending the life of these resources?

Adapted and included with permission from:

A-way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98540-7600.

78

1993 ESTIMATES OF GLOBAL RESERVE BASE

Color	*Beads*	*Finite Resource*	*1993 Estimates of Global Reserve Base*
Red	200	Iron in ore	100 billion metric tons
Blue	100	Bauxite	28 billion metric dry tons
Yellow	1	Tin	10 million metric tons
Coin (nickel)	1	Silver	13.5 billion troy ounces
Coin (penny)	3	Copper	590 million metric tons
Orange	1	Lead	130 million metric tons
Purple	28	Chromium	6.8 billion metric tons
Coin (dime)	1	Platinum	2.1 billion troy ounces
Black	400	Oil	1 trillion barrels*

Sources:

1993 Estimates of Global Reserve Base taken from U.S. Bureau of Mines. Mineral Commodity Summaries 1993. Washington, D.C. U.S. Government Printing Office.

* *California Energy Commission, Energy Forecasting and Planning Division - Fuels Planning Office, 1516 Ninth Street, Sacramento, CA 95814.*

SOLID WASTE: WHAT'S MY RESPONSIBILITY?

OBJECTIVES

Using solid waste as an example, students will examine how their perception of a problem affects their response to that problem. They will examine the individual's and government's responsibility in solving social problems. Students will define ways they can take responsibility for solutions.

METHODS

Students read the article "My Twenty Foot Swath" and consider meanings and reactions to Responsibility Assumption Overload (RAO).

MATERIALS

❑ Copies of the article "My Twenty Foot Swath" *(follows this lesson).*

PROCEDURE

Part I

1. Read the following article, "My Twenty Foot Swath".

2. Ask questions about the man in the article:

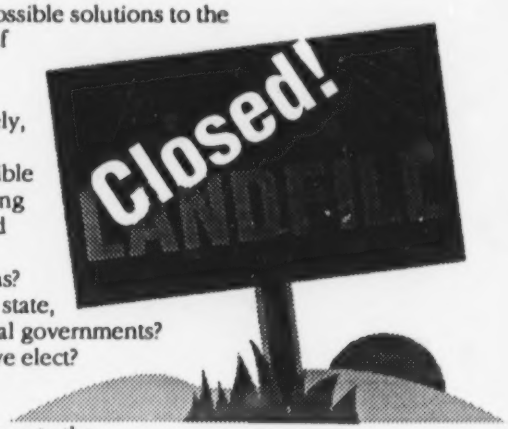
   - What worries this man?
   - What does he try to do about it?
   - Does he think his response is effective?
   - What response do students make when faced with a problem of this kind?
   - What is RAO (Responsibility Assumption Overload)? Have students ever felt RAO? What were the circumstances?

3. Use the problem of solid waste as an example of an area where RAO may have occurred for some people.

Have students consider the following facts:

- Californians create about 46 million tons of trash every year; enough to fill two freeway lanes 100 feet deep from Oregon to Mexico. (1)
- Americans make more than twice as much trash per person as people of other countries such as Japan and Germany. (1)
- The EPA predicts that by the year 2000, more than half the remaining 6,000 municipal landfills in the U.S. will be closed (full). (2)

4. Discuss possible solutions to the problem of waste.



   - Ultimately, who is responsible for solving our solid waste problems? County, state, or federal governments? Those we elect? Only those who generate the waste? Individuals?
   - Should government strictly regulate disposal of all types of household waste?
   - Should government force people to recycle? Should government give greater incentives?
   - Is it reasonable to expect that individual action has a chance of solving a problem of this size? If not, what do students see happening?
   - We do not have the luxury of creating more and more landfills. Should we ship our waste to other countries? Dump it in the oceans or send it into space? Require manufacturers to reclaim their products after the product has reached the end of its useful life?

Part II:

OTHER LARGE ISSUES AND PERSONAL RESPONSIBILITY

1. Ask students to identify other large economic/ political/social issues they perceive they can do nothing about. Some examples might be:

   - ❑ Depletion of natural resources
   - ❑ Industrial pollution
   - ❑ Overpopulation
   - ❑ Unemployment
   - ❑ Homelessness
   - ❑ Violence

2. Have students pick one of these topics (or pick one you are currently studying) and list all possible solutions. Identify individual responses that can help solve this problem. Ask:

   - How do individual solutions differ from large organized solutions (i.e., governmental or institutional efforts)?
   - How do the benefits differ? Is there any good to be realized from an individual action even when it won't be sufficient to solve the problem?

3. What is the legislative (the development of laws) role in determining individual responses to problems? Can students think of any laws that demand or encourage personal or corporate responsibility?

   - What legal problems might result from requiring industries to take back used products; or requiring industries to provide recycling instructions on packaging?
   - Do students think the California state law establishing fines for littering has been effective in reducing the litter problem?
   - What responsibility do companies manufacturing hazardous waste have for its disposal? Should the government regulate disposal? (Regulating businesses can be expensive. Would tax payers finance the costs of regulating disposal; the consumers using the products; the company producing the products?) What are the company's responsibilities if wastes are discovered years later?

4. Can students think of a serious local problem they feel responsible for doing something about (i.e., a reaction to seeing hungry or homeless people on the streets in their cities)?

   - Did students do something about the problem? Why or why not? If not, what keeps people from being the solution? What keeps people from taking that final step to action?

5. Are there any community problems which students have helped resolve (no matter how minor)? If there are, what problems were solved?

   - What benefits did they derive from participating in the solution (i.e., made friends, learned something, opened doors for employment, gained satisfaction in doing something worthwhile, learned to approach problems in a positive, active way)?
   - Ask students to compare their responses to those of the man in "My Twenty Foot Swath."

Part III:

A PERSONAL RESPONSIBILITY ACTIVITY

1. Have the class identify a waste, litter, or recycling problem (as the man in the article did) and

determine what to do about it. The solutions may or may not be immediately obvious.

Individual action they can take right now:

- Start source separation and recycling at home or at school.
- Be a responsible buyer. Look for products packaged in reusable and recyclable containers. Buy products that use less packaging or have packaging made of recycled material.
- Compost waste.
- Reduce waste going into the garbage can by using reusable rather than disposable (i.e., cloth towels instead of paper towels, glass/ceramic/plastic reusable plates instead of paper plates, etc.)

Adapted and included with permission from:

A-way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE, P.O. Box 47600, Olympia, WA 98504-7600.

Source:

Lundberg, Kenneth V. "My Twenty Foot Swath," Covenant Companion. Chicago, IL. Covenant Press (5101 N. Francisco Ave.), October 1982, pp.8-9.

Notes:

1. *San Diego County Office of Education. (1991). Rap - Recycle and You Save. A curriculum for Kindergarten Through Sixth Grade. San Diego County Office of Education, San Diego CA (619) 974-2661*
2. *Glad Wrap and Bags. The Solution is in Your Hands. (Products of First Brands Corporation & Keep America Beautiful, Inc.)*

MY TWENTY FOOT SWATH,

Kenneth V. Lundberg

(Covenant Companion, Reprinted by permission of the Covenant Press)

I worried so much about world hunger today, that I went home and ate five cookies. Did personal or global problems ever become so overwhelming that you were immobilized or driven to some action that actually aggravated the problem? Have you experienced such frustration about the hopelessness of solving the problems of poverty, environmental pollution, or human suffering that you could avoid it only by deciding that you were powerless to do anything about their alleviation? This is called Responsibility Assumption Overload (RAO). Here's how I dealt with this feeling.

I park my car away from my building at work. That way I get both exercise and a parking space, as everyone else competes for spots next to the entrance. My morning and late afternoon strolls take me on a stretch of lawn between the tennis courts and the soccer field, and across an occasionally used softball diamond. The lawn is twenty feet wide, more or less. Soft and green, it was originally very littered. Tennis players discard tennis ball containers (and their flip-tops), worn out sweat socks, broken shoelaces and energy candy bar wrappers. Soccer game spectators leave behind beer bottles and junk food cellophane.

In my early days it disgusted me, and my thoughts centered on ways of correcting the situation: writing letters to the campus newspaper (no doubt totally ignored); campaigning for anti-litter regulations (who would enforce them?); organizing a 'Zap-Day' cleanup (leaving 364 days for littering). All noble efforts would have demonstrated my indignation, raised my blood pressure, and attracted attention, but they would not have changed the appearance and/or condition of the area.

So, I decided to take ownership. I would be the solution. I did not tell anyone of this; it was probably against some rule or another. I decided that I would be responsible for the environmental quality of this twenty foot swath. I did not care what other parts of the campus were like. They were someone else's problem. But each day, going from and to my car, I picked up litter.

At first, it was as much as I could conveniently carry. Then I made a game of it, limiting my picking to ten items each way. It was an exciting day when I realized I was picking faster than "they" were littering. Finally, the great day arrived when I looked back on my twenty feet of lawn — now perfectly clean.

Where did I put the litter? At first, I brought it into a wastebasket in the building, or took it to the car to bring home. Then a curious thing happened. One day, large orange barrels appeared at each end of my swath. Someone in maintenance had become my silent conspirator — periodically emptying and replacing the barrels. He, too, knew the wisdom of keeping a low profile about it all.

I've done this for several years now. Has general campus appearance changed? Not much! Have litterers stopped littering? No! Then if nothing has changed, why bother?

Here lies the secret. Something has changed. My twenty foot swath and me! That five minute walk is a high spot of the day. Instead of fussing and stewing and storing up negative thoughts, I begin and end my workday in a positive mood. My perspective is brighter. I can enjoy my immediate surroundings — and myself — as I pass through a very special time space.

"It" is better because of me. I am better because of "it". "We" enjoy the relationship. Maybe, even, "I" look forward with anticipation to my coming. With a brighter outlook, I have learned a lot of things that would have gone unnoticed. For instance, I have learned that tennis players grunt a lot. There seems to be some correlation between the quality of the grunt, especially on the serve, and the quality of one's game. Maybe I have discovered the secret of the game. I have also learned that soccer players curse a lot, but there does not seem to be any correlation between that ability and soccer skills. I have even learned that most soccer spectators, at least at my college, come to eat, drink and talk — not to watch the game.

My learning — and the twenty foot swath — does not stop at the building door. There is an important principle that follows wherever I go. I cannot solve man's inhumanity to man, but I can affirm, with a smile and a word of appreciation, those who feel burdened by the need to work at lowly jobs. I cannot right the imbalances of centuries of discrimination, but I can "lift up" someone who feels the weight of a poor self-image. I can treat women as equals without solving the problems of sex discrimination. I can seek out the social and

economic litter in my own "twenty foot swath" without demanding of myself that I "clean up the whole world".

I now practice a discipline of leaving each time-space capsule of my life a little better than when I entered it. Each personal contact, each event, each room I enter becomes a small challenge. I want to leave it improved, but more important, I am responsible to myself to be improved; and thereby, maybe — just maybe — my having been there will make life better for someone else.

I am becoming more and more disenchanted and suspicious of revolutionaries, crusaders, militants and do-gooders. Many, if not most, seem to be more concerned about being right than being loving or effectual. The zealot, no matter how well-intentioned, often leaves a trail of wounded people while in pursuit of the cause.

Is this all too myopic — shutting one's eyes to the greater concerns? It does not need to be! I now have a "twenty foot swath". Next year it may be forty, or sixty, or eighty feet wide. Ten talents were not required of him who had been given only one. Too many people stumble by taking on causes too great for their level of discernment and discipline. They need to begin to catch the vision of the important promise, that the meek shall inherit the earth, not the indignant or frustrated.

GARBAGE: ACHIEVING ITS POTENTIAL

OBJECTIVES

Students will evaluate current and future plans for solid waste disposal in their community. They will develop a plan which includes recycling as part of the garbage collection policy.

METHODS

Students conduct a survey of waste management government officials, business representatives and community members. Afterwards, they evaluate findings and make recommendations regarding future courses of action.

MATERIALS

❑Questionnaires (developed by students)

PROCEDURES

1. Discuss with students the fact that landfills are rapidly filling and by the year 2000, the EPA predicts that more than half the remaining landfills will be full. Ask students if they know of activities occurring in their community to recycle, reuse and reduce waste products.

2. Split the class into groups. Advise one set of groups that they will contact recyclers, landfill site managers, disposal company representatives, sanitation department officials, county environmental health officers and planning officials to obtain information on waste management issues in their community. *(NOTE:* The *Local Government and Community Resources Section* of this publication contains a listing by county and city of some of the previously mentioned groups.)

   Advise the other set of groups that they will interview people in the community concerning their feelings and ideas about present and future improvements and alternatives to garbage collection.

3. Have students develop questionnaires to use when obtaining information. Questions to consider asking are:

(NOTE: Students will have to determine which questions are appropriate for their questionnaire respondents.)

Officials and Business Representatives' Questionnaire

- What are the quantities and types of materials discarded?
- Where are waste materials disposed of?
- What is the life expectancy of the nearest landfill?
- What is the expense of solid waste disposal to the community?
- What is the expense to the individual homeowner?
- Is garbage collection mandatory?
- Does the community have curbside recycling/ pickup or a resource recovery plant?
- Is recycling encouraged or discouraged? What are the quantities and types of materials recycled, reused and recovered?

- What is the market for recycled materials?
- Are there any existing market development activities for recycled materials?
- AB 939 (1989) mandated that local governments reduce landfill usage 25% by 1995 and 50% by the year 2000. What impact has this bill had on the reduction of landfill usage and the development of source reduction and recycling element plans?

Community Members' Questionnaire

- Do you know what happens to your garbage?
- Do you recycle?
- If you could get a lower collection rate for reducing the amount of garbage you generate, would this motivate you to recycle?
- What incentives would motivate you to recycle more?
- Which of the following solid waste management options do you favor in dealing with this community's solid waste?
  - ❑ *Reduction*
  - ❑ *Recycling*
  - ❑ *Resource recovery plants*
  - ❑ *Landfills*
- Do you see any other options for solid waste management in your community?

4. Have students record and evaluate their findings based on the following:

Officials and Businesses Questionnaire Results

- At the present and for the future, do students feel that their community has made adequate preparations?
- If students had the ability to change any aspects of the plan for future solid waste disposal in their community, what would they do?
- Based on their research, make recommendations on how individuals in their community might become involved in determining future courses of action regarding solid waste disposal.

Community Members Questionnaire Results

- How do community members view solid waste management practices?
- What options do they tend to favor with regard to solid waste? (Reduction, recycling, resource recovery plants, landfills.)
- Do community members know what happens to their garbage?
- What do students think would motivate community members to become more proactive in waste management issues?

5. Have groups present findings to the class. Based on their group findings, have students consider the following:
   - What do the two different surveyed groups have in common?
   - Where do the two groups differ?
   - Do officials and business groups consider and accommodate the views of community members regarding waste management issues? Should they?
   - Do community members know how officials and business groups view waste management issues?
   - Is there a need to develop markets for recycled products?
6. Use the results from both surveys to develop a plan suggesting improvements in the community's current recycling programs and waste reduction practices. Send the survey results, evaluation and possible recommendations to community decision makers.

Adapted and included with permission from:

Washington State Department of Ecology.
A-way With Waste. Garbage: Its Possibilities and 2001: A Trash Odyssey. 3190 160h Avenue S.E., Bellevue, WA 98008-5452. (206) 649-7043.

AS THE WORM CHURNS

OBJECTIVES

Students will discover a beneficial, low-technology way to reduce household waste; understand the natural process of biodegradation and soil production and learn how to improve soil through worm composting.

METHODS

Students acquire a bin for worm composting. They maintain the bin and analyze results.

MATERIALS

- ❑ wooden box (2' x 2' x 1')
- ❑ paper (about 6 pounds)
- ❑ water (about a gallon)
- ❑ dirt (1-2 handfuls)
- ❑ redworms (Eisenia Foetida)
- ❑ calcium carbonate (egg shells are a good source)
- ❑ food waste

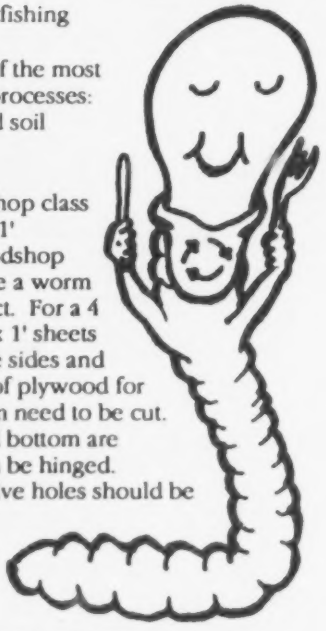
PROCEDURE

Background information

In the U.S., yard trimmings and food scraps make up about one-fourth to one-third of our waste stream. *(1)* Organic composting is an effective way to convert these waste products back into fertile soil and decrease landfill usage.

This project uses redworms to process kitchen waste into high-quality garden compost. Properly constructed and maintained, worm bins do not give off an offensive odor. Worm bins provide the following benefits:

- Reduce household waste
- Save garbage disposal costs
- Produce an excellent soil amendment
- Provide worms for fishing
- Demonstrate one of the most important natural processes: biodegradation and soil production



1. Ask the school's shop class to build a 2' x 2' x 1' wooden bin. Woodshop classes could make a worm bin as a first project. For a 4 cu. ft. bin, four 2' x 1' sheets of plywood for the sides and two 2' x 1' sheets of plywood for the top and bottom need to be cut. After the sides and bottom are nailed, the top can be hinged. About nine to twelve holes should be drilled into the bottom and sides of the box. The holes provide air for the worms. (May use wood, metal or other containers as long as they are not filled deeper than 1').

NOTE: Specifications for a larger compost bin follow this lesson.

2. Discuss the impact of food wastes on the solid waste stream. Discuss the loss of valuable nutrients to the earth's thin layer of top soil. Discuss alternative methods of handling food wastes (including garden composting bins). Introduce the idea of using redworms.

3. Ask students to look for and collect redworms (*not* nightcrawlers). Places to look include: barnyards, under mulch, in compost piles, under decomposing lumber. You will need 4.5 ounces of redworms for each cubic foot of bin. (You may need to supplement the redworm find by obtaining redworms from commercial growers or bait dealers.)

4. Set up the worm bin.

   Shred the paper by tearing it into strips about 2" wide, put the paper in a bucket, slowly pour water in while fluffing the paper occasionally. Let the paper segments drip until it subsides; put wet strips of paper in the worm box and sprinkle

in several eggshells (for worm reproduction). Add several handfuls of soil. (Worm bins should never be more than 1 foot deep or anaerobic conditions may develop.)

Gently place the worms in the box, leave the top open until the worms burrow down; close the lid or cover with black plastic sheet. (Since worms do not react to red light, a red plexiglass side panel or lid would allow direct observation of worm activity.)

5. Feed worms once a week by burying food wastes in the bin. For a 4 cubic-foot bin, bury four pounds of food waste in the bin each week, making sure to rotate the location of the burial (mentally dividing the bin into nine squares would probably be helpful).

Foods that work well in the worm bin are: apples, apple peels, baked beans, banana peels, biscuits, cabbage, cake, cantaloupe (a worm favorite), celery, cereal, cheese, coffee filters, coffee grounds, cornbread, cottage cheese, cream cheese, Cream of Wheat cereal, cucumbers, deviled eggs, egg shells, farina, grapefruit peels, grits, lemon, lettuce, Malt-O-Meal cereal, molasses, oatmeal, onion peel, pancakes, pears, pineapple, pineapple rind, pizza crust, potatoes, potato salad, tea bags, tea leaves, tomatoes, turnip leaves and watermelon (another favorite). Avoid putting meat products, plastic, bottle caps, rubber bands, sponges, aluminum foil, or glass in the box. Fruit flies can be avoided by burying the food waste completely.

6. Maintenance and harvesting worm castings:

The worm bins need little routine maintenance. Depending upon the desired outcome, the bedding should be changed every three to six months. After three months, one will find the number of redworms is high; after four months, the number of redworms will still be high, plus the quality of compost will be fairly good; after six months, many redworms will have died, but the quality of the compost will be very good. The resulting compost will be primarily worm castings (worm manure).

To change worm bedding, either dump the contents of the bin under a bright light and brush the layers of compost away (the worms will move away from the light and gather at the bottom of the pile); or pull the compost plus worms to one side of the bin and add new bedding to the vacant side.

An alternative is to use only one-half of the box at a time; put your bedding and worms in one side of the worm bin. Continue to bury food in the bedding until it is composted. Then, add new bedding to the empty half of the bin. Begin burying food on the new side. Allow one month for the worms to migrate to the new side. Remove the worm castings. Use the soil formed by the castings on potted plants or in the garden.

7. Suggested follow up activities:

- Calculate the amount of household food that class members throw away in a day.
- Discuss: Why, in a hungry world, do we throw away so much food? (Americans dump the equivalent of more than 21 million shopping bags full of food into landfills every year.) *(2)*
- Study the effects of various mixtures of vermicompost, peat moss, soil and perlite on potted plants.
- Study the reactions of worms to different colors of light. Study the food preferences of young vs. mature worms. Using four worm bins, study the reactions of the worms to the four food groups.
- Keep records of the temperature of the compost, room temperature, amount and types of food fed to the worms, and total volume/weight of the compost. Relate these variables to each other and to any variables you identify.
- Study the worm's life cycle. How do worms reproduce? Can young worms be seen? How long do the worms seem to live? Is there any evidence of dead worms?

Adapted and included with permission from:

A-way With Waste. Washington State Department of Ecology. 629 Woodland Square Loop SE. P.O. Box 47600, Olympia, WA 98504-7600.

Notes:

1. *State of California Department of Health Services, Toxic Substances Control Program. Handbook from the Toxic Substances Control Program. Available from Office of Public Government Liaison, Education and Information Unit, 400 P Street, P.O. Box 942732, Sacramento, CA 94234-7320.*

2. *EarthWorks Group. (1990). The Recycler's Handbook. The EarthWorks Press. Berkeley, CA.*

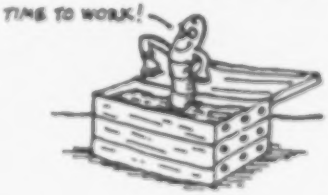
As the Worm Churns

1. Build or obtain a container.
   Drill holes in 2 sides and on the bottom.

2. Shred paper for bedding.

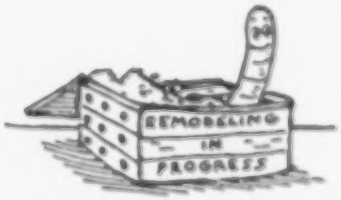
3. Wet the bedding and squeeze out excess water in the sink.

4. Sprinkle in 1 or 2 eggshells, and 1 or 2 handfuls of dirt.



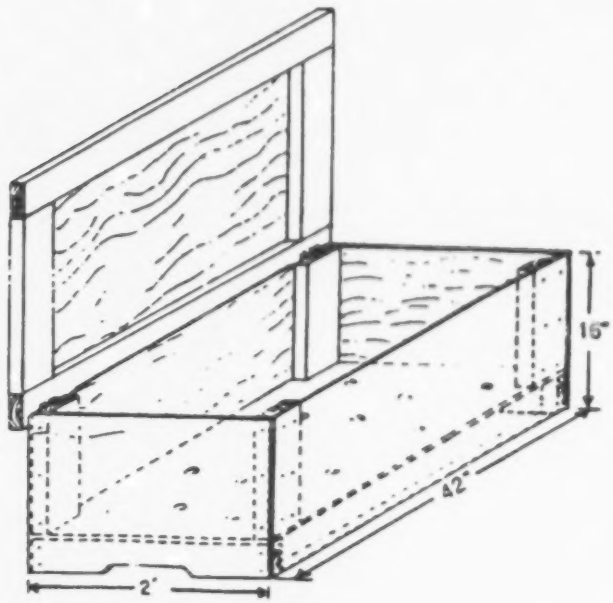
5. Place worms in the box.

6. Bury garbage for food once a week.
   (Be sure you rotate the placement of the garbage).



7. Change the bedding every 3-6 months and remove the newly made soil.

1-2-3 Worm Composting Bin



This system is designed for composting vegetable food wastes using redworms. Food and worms are "bedded" in shredded and moistened newspaper, cardboard, peat or brown leaves. The worms turn both food wastes and bedding into a high-quality compost suitable for use on house plants, seedlings or general garden use.

To maintain this system simply rotate food wastes throughout the bin. Every 3-6 months, compost should be moved to one side of the bin and new bedding added to the empty half. At this time start burying wastes in the new bedding only. Within one month worms will populate the new bedding; finished compost may be harvested and the rest of the bin can be rebedded. During the winter, worm bins should be kept in a cool indoor space such as a basement or warm garage to avoid freezing. A properly maintained worm bin is odorless. Bins may be placed in a shady outdoor space the remainder of the year. Flies may be controlled by placing a sheet of plastic over the bedding.

This bin can be built for about $35 with new wood and hardware, or less using reused materials. Worm bins can also be made from wooden boxes or other containers. Any worm bin must have drainage in the bottom and a tight fitting lid to keep moisture in and pests out. A starter batch of worms can be purchased at a small additional cost, or find some in an old compost pile! For more information, see Mary Appelhof's book, Worms Eat My Garbage.

Materials

1 - 1/2" treated sheet of plywood

2 - 12' 2 x 4s

1 - 16' 2 x 4s

2 lbs. - 6d galvanized nails

1/2 lb. - 16d galvanized nails

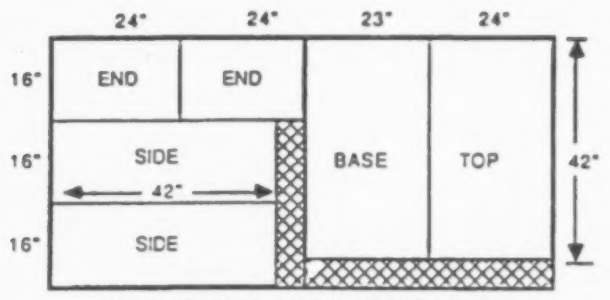
2 galvanized door hinges

Tools

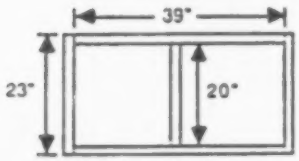
Tape measure, skill saw or rip hand saw, hammer, saw horses, long straight edge or chalk snap line, screwdriver and drill with 1/2" bit.

Use eye and ear protection.

Construction Details

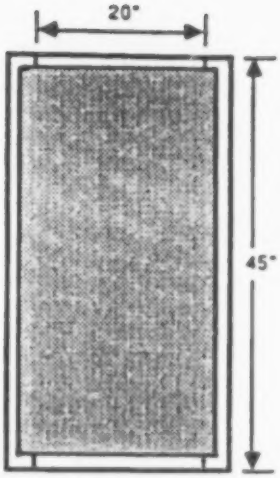


4'x 8' SHEET OF 1/2" PLYWOOD



BASE FRAME 2 x 4s ON EDGE

END BASE BOARDS CAN BE NOTCHED FOR HANDHOLDS



TOP LID 2 x 4 FRAME WITH PLYWOOD COVER

Measure and cut plywood as indicated in drawing above. Cut one 12 foot 2 x 4 into five pieces: two 39", two 23" and one 20" long. Nail the 2 x 4s together on edge with two 16d nails at each joint as illustrated in the base frame diagram. Nail the plywood base piece onto the 2 x 4 frame.

Cut four one-foot lengths out of the sixteen-foot 2 x 4. Take each plywood side piece and place a one-foot 2 x 4 under each of its ends so that the 2 x 4 is flush with the top and side edges of the plywood and nail the boards into place. Nail the side pieces onto the base frame. To complete the box, nail the ends onto the base and sides. To reinforce the box, be sure there is a nail staggered at least every 3 inches wherever plywood and 2 x 4s meet. Drill twelve 1/2" holes through the bottom of the box for drainage.

To build the lid, take the remaining twelve-foot 2 x 4 and cut it into two 45" pieces and two 20" pieces. Lay them flat, short pieces on the inside as indicated in diagram above, so that the plywood top is inset from the edges of the 2 x 4 by 1 - 1/2" all the way around the perimeter. Nail the plywood onto the 2 x 4s and on the underside of the 2 x 4 lid frame, so that the lid will stand upright when opened.

MORE IS NOT BETTER

OBJECTIVES

Students will learn about excessive/wasteful packaging and the rationale behind it. They will learn how to express their opinions in an objective and productive manner. As consumers they will become familiar with their impact on the manufacturers of products.

METHODS

Students choose an excessively packaged product. They write to the product's manufacturer expressing their opinions and concerns regarding the product.

PROCEDURES

1. As a class discuss the following:

All too often, people believe "the more there is, the better." Unfortunately, this is not always the case for product packaging. In many instances, packaging is a necessity. The need for sanitation (health care products), freshness (food), safe storage and transportation (fragile products) and labeling information (warnings, ingredients), necessitates some packaging. However, if we wish to save depleting resources, we should search for purposeful and less wasteful ways of packaging our products.

Today, numerous manufacturers are aware of decreasing resources and strive to produce and package environmentally-sensitive products. By conservatively packaging products or using recyclable/reusable materials, manufacturers save valuable resources.

However, not all manufacturers consider the environment when packaging their products. Some are driven by marketing strategies (influenced by consumer demand) to produce excessively wrapped products. Others may simply have neglected to consider environmental impacts. What can we, as consumers, do?

2. As a homework assignment, ask students to choose a product they feel is excessively packaged. (Look at home, in stores, in magazines or newspapers, or at television advertisements.)

3. After students choose a product, have them analyze the packaging. Things to consider include: the reasons they feel it is excessively wrapped (i.e., the product is wrapped, boxed, and wrapped again.); the resources (water, trees, oil, minerals) required to manufacture the wrapping; if any components of the packaging are made of recycled materials; if the packaging can be recycled or reused; if the packaging will end up in a landfill.

4. Have students develop alternatives to their packaging. They should design and diagram their concept of a less wasteful method for packaging the product. Ask students to provide a written explanation and justification for their packaging idea (i.e., refillable container, less packaging, recyclable materials, etc.).

5. Have students prepare letters to send (along with their designs) to the manufacturers of their products. Emphasize to students that grammatically correct, objectively written letters are much more credible than verbal assaults. They are also more likely to be heard. As consumers, we all have the right to express our opinions as long as we do it constructively.

SUGGESTIONS FOR WRITING LETTERS:

- Address the correct party. Many large manufacturers have presidents, chairpersons, or other designated heads. Students will want to address a person in the company with the power to affect change.

- Include students' name, home address and other pertinent information to facilitate the manufacturer's response (some schools may wish to have their names included in student letters).

- Accurately and clearly describe the product in question. (This is especially important with large manufacturers.)

- Add factual information (i.e., charts, diagrams, and statistical information about either the packaging or the resources used in its production.) obtained during researching the product.

- Include student feelings of how the product's packaging affects them, their family and the environment.

- Request a response to the letter. Ask manufacturers what actions they are taking to recycle, reduce, reuse and close the loop (buying products made from recycled materials).

6. Share unique student letters and manufacturer responses with:
   Department of Conservation
   Division of Recycling - Education Section
   801 K Street, MS 22-57
   Sacramento, CA 95814

Adapted from:

Ventura Regional Sanitation District, Waste Web, Over Packaging: An action oriented environmental curriculum. 1001 Partridge Drive, Suite 150, Ventura, CA 93003-5562.

SETTING UP AN IN-SCHOOL RECYCLING PROJECT

OBJECTIVES

Students will acquire skills in researching, organizing, coordinating and promoting recycling activities.

METHODS

Students make community contacts performing research. They enlist approval and cooperation from principals and teachers. In addition, they organize and operate their own recycling project.

PROCEDURES

1. Establish a Recycling Task Force. Ask students to form a core group to be responsible for planning, researching, organizing, coordinating and promoting a recycling program in the school. (Five to ten students are probably enough.) Be sure to inform students that this is simply the beginning. Many more students will be enlisted to actually make the program work.

2. Have the Recycling Task Force decide upon meeting times (or allow class time). It is helpful to encourage the group to set aside regular meeting times and agree to arrive at the meetings prepared.

   Their first meeting should consist of establishing goals and objectives. Are students setting up a program to make money? to reduce the use of natural resources? to reduce campus litter? to learn how to establish and run a business venture? What will any proceeds be used for?

3. Identify school materials that typically end up as waste. Paper, cardboard, aluminum cans, polystyrene trays and metal cans from cafeterias are examples. Also, determine if they want to solicit recyclable materials from the community.

4. If your community has a Recycling Coordinator, contact him/her to obtain technical assistance and information. Contact recycling center operators to determine which of the school's typical waste materials are recyclable in your community. (See the *Local Government and Community Resources Section* of this publication for listings of recycling coordinators and operators.)

   Students may also contact the California Department of Conservation's — Division of Recycling at **1-800-RECYCLE** (in CA only) for assistance with identifying a local recycler.

5. Contact material processors or recycling center operators dire..ly to determine what assistance they may be able to provide. (i.e., if you have a paper processor in your area, they may be willing to provide collection boxes for each classroom. They may even be willing to pick up on a regular basis). Find out if the community has a curbside program and what materials/ quantities they accept.

6. Determine the requirements of the recycling operator or processor; i.e., should glass products be separated by color? What paper is acceptable? Do metal cans need to have labels

removed? What quantities and limits do students have to adhere to (i.e., currently, recycling centers cannot receive more than 500 lbs. of aluminum cans at any one time without the customer being certified)? Will recycling centers or processors pick up materials or will students need to make provisions for transporting recyclables to the centers/processors?

NOTE: The "Recycling in Schools" section also provides valuable information on setting up school recycling programs.

7. Obtain an adult advisor(s) for support and guidance. The advisor(s) should be willing to assist and advise without being expected to "run" the project.

8. Decide how many students will be required to keep the project going. Some successful student-run programs incorporate assistance from many different school groups. Once the task force establishes the project, different groups could assist in managing the workload. They might rotate the responsibility for collection and delivery of recyclables with each group keeping the proceeds received during their collection period.

9. Students develop a business plan based on the information obtained during their research. (Reinforce the concept that successful ventures begin with well-thought out plans.) Include:

   - a student training plan (for recruits).
   - locations for collection sites; i.e., students might write in their plan "plastic garbage cans for collecting aluminum cans will be placed near the gymnasium, the cafeteria, the lunch quad, in the main halls and near portable classrooms."
   - methods for advertising the project; i.e., school newspaper, posters in high traffic areas, school rally, etc.

10. Present the proposal to the principal and teachers for their approval and cooperation.

11. Recruit volunteers to help run the project. For successful recruitment, students might consider organizing a rally. Present the ecological and personal benefits of joining such an effort.

12. Develop work schedules and a plan for reminding groups or students when they are to work.

HITTING THE AIR

OBJECTIVES

Students will focus on what to tell their school about recycling. They will gain experience in promoting a cause.

METHODS

Students work in groups developing public service announcements (PSAs). The PSAs are shared with the student body.

MATERIALS

Writing paper, tape recorders

PROCEDURES

1. Lead a discussion on the benefits of recycling; i.e., reducing the drain on the earth's natural resources, extending the life of nonrenewable resources, extending the life of landfills, cleaning up the environment, etc. Encourage students to be creative in this discussion. Let them know they will use these ideas to develop PSAs.

2. Break the class into small working groups. Have students brainstorm different topics they might focus on in developing a PSA. For example, their topic might be recycling beverage containers. Or, students might focus on the topic of recycling school materials.

   If students have completed the activity, "Setting Up An In-School Recycling Project," their subject might be even more focused (i.e., students might concentrate on getting the student body to place only aluminum cans — not other trash — in designated receptacles or defining appropriate paper types for their recycling paper bins).

3. Have students develop the text for their PSAs. Prepare an outline or script of what to say. ***NOTE:*** Pre-recorded PSAs can range in length from: 10; :20; :30; and :60 seconds, for radio and TV broadcast. PSA text can be longer if submitted with the intention that the radio or TV station will edit it down to the aforementioned lengths.

4. Have groups decide who will speak. There could be one voice or several — talking, singing a song or catchy jingle, reciting a poem, having a conversation or making sound effects.

5. Rehearse or recite the script. Edit the script if it lasts longer than one minute. Be sure to speak clearly.

6. Record the PSAs, allowing a pause between each one. Begin each with "This is [student's name(s)], of [school name], for recycling."

7. Broadcast the recycling messages on the school public address system.

SUGGESTED ACTIVITIES

- Contact local radio stations and ask if they are interested in hearing the best of the PSAs. Send text (poems, songs, stories, etc.) to newspapers or other publications.

- Use this same activity idea to make videos of PSAs.

- Share your ideas with:
  California Department of Conservation
  Division of Recycling - Education Section
  801 K Street, MS 22-57
  Sacramento, CA 95814

Source:

Wisconsin 4-H, Recycle for Reuse 4-H, 57 Fairgrounds Drive, Madison, WI 53713-1497. (608) 266-4156

Recycling in Schools

HOW TO SET UP A SCHOOL RECYCLING PROGRAM

INTRODUCTION

This section has been written to provide you with information about recycling programs in schools. Included are a step-by-step process for establishing a school recycling program and examples of recycling programs and ideas from other schools.

We understand that implementing a recycling program can seem like a monumental task. So, please take a moment to skim through this material. See for yourself how easy it can be to start a program and the benefits of doing so.

SETTING UP A RECYCLING PROGRAM

When setting up a recycling program, a little planning and research goes a long way. Begin by following these simple steps:

1. Get some help.
2. Determine the program goals.
3. Decide on the type of program or programs you will use.
4. Decide what kinds of materials you can or want to recycle.
5. Contact your local recycler.
6. Get certified.
7. Design the collection and storage system.
8. Develop a promotional program and decide what incentives you will use to encourage participation.
9. Close the loop.

1. Get Some Help

Establishing and operating a recycling program requires the cooperation and participation of many different people. To help facilitate this, we encourage you to establish a recycling program committee of representatives from groups that will be involved in the program. At a minimum, the committee should include the school principal, teachers, students, custodial staff and parents. We also recommend that the committee select a recycling coordinator who can direct the committee and provide everyone with a focal point when questions need to be answered and decisions need to be made.

In addition to a committee, several volunteers may be needed to help with the collection and transportation of recyclable materials. The following is a synopsis of potential volunteers to help you with your program.

- ***Students:*** Individual Classes, Environmental Club, Trash Patrol, Science Club, Newspaper, Student Council, Recycling Monitor
- ***School Staff:*** Administrators, Teachers, Maintenance, Custodial, Cafeteria, Gardening
- ***Schools:*** District Office, Other Schools In District, Other Public and Private Schools In Area, Networking
- ***Parents:*** PTA, Parent Clubs, Booster Club, Individual Parent Volunteers
- ***Community:*** Recycling Centers, Waste Haulers, City Recycling Coordinator,

County Recycling Coordinator, Environmental Organizations

The Division of Recycling's (Division) Education Section is also available to provide technical assistance by calling (916) 322-0952. In addition, the Division maintains a resource library with materials your school may borrow, including books, videos, games, fact sheets, curriculum guides, film strips and other materials to enhance your curricula. For more information, contact the Division's Resource Center at (916) 445-1490 or by calling the toll-free hotline at **1-800-RECYCLE** (in CA only).

In addition, the California Integrated Waste Management Board at 1-800-553-2962 has information on recycling items other than beverage containers as well as hazardous waste (oil, batteries, pesticides, etc.) collection information.

2. Determine the Program Goals

There are many different reasons why schools have recycling programs, but most reasons fall into two areas--financial and educational.

Some schools establish recycling programs primarily as a means of raising funds for a school program. Many schools have realized that they can use recycling to make as well as save money. Money can be earned by selling collected materials to a recycler, who will pay scrap value and/or California Refund Value (CRV). Recycling can also save money through decreased waste disposal costs.

Some school recycling programs are established primarily to allow students to actively contribute to the preservation of the environment. Because recycling saves natural resources, decreases pollution, saves landfill space and saves energy, a recycling program can be used as a means of teaching students to be responsible for their personal impact on the earth and its resources.

Determining the goal of your program, be it financial, educational or both, will assist you in determining the type of recycling program that best suits the needs of your school.

3. Decide on the Type of Program or Programs You Will Use

An **in-school collection** system recycles materials used daily at your school. With this system, you can start small and add to it as your school grows accustomed to recycling and as you identify recyclers that can take different types of materials. Receptacles can be located in classrooms, administrative offices, the cafeteria and any other selected sites. Materials are collected from those receptacles and stored at a central location for transportation to a recycler. Because most materials generated at a school do not have a high market value, this type of program is not a big money maker, but it is one of the best ways to develop student awareness of waste management and recycling.

A **dropoff program** is one where receptacles are located in a convenient, accessible area and are always available for students, staff and members of the community to "dropoff" their recyclable materials. When the receptacles are full, the materials are transported to a recycler. This type of program can either be a fundraiser by choosing to collect materials with a high market value or it can provide a service to your community by collecting materials that are often times not saved because of their low market value.

A **drive** is similar to a dropoff program except that collection occurs over a shorter period of time, usually a couple of days every few months. Bins are set up on campus during the selected period of time, the drive is advertised in the community, and materials are dropped off and taken to the recycler. Sometimes recyclers will donate the use of recycling bins and pick up the materials at the end of the drive. Because a recycling drive is usually conducted to raise funds, it could replace one of your sales-type fundraisers. Relatives and the community could make a contribution to the school without having to buy anything and get rid of some of their trash at the same time! (And maybe they would pick up a good habit.) A good time to conduct a recycling drive is in September, to benefit from the seasonal heavy consumption of beverages during the summer months, in April to coordinate with Earth Day and California's Recycle Week and at the end of the traditional school year when the school cleans house. We recommend that you have several a year so that your community gets into the habit of bringing you their materials on a regular basis.

An **Adopt-a-School** program is the least labor-intensive program and is typically used as a fundraiser. With this type of program, you ask the recycling center located nearest to your school to adopt your school. The recycler sets up an account under your school's name which allows the community to donate recyclables for your school right at the recycler. You don't have to monitor bins or transport the materials. Recyclers are generally

very willing to set up this type of program because the school will be advertising for them.

Recycling events are typically one-day affairs and include, but are not limited to, the following:

- environmental fairs or carnivals (trade recyclables for game tickets, games have recycling theme)
- trash pickups (school grounds, vacant lots, roadsides)
- recycled art show and auction (art made from recycled materials)
- recycling assembly with a dumpster dive (students sort through the school trash to "mine for recyclable treasures")
- clothing and furniture rummage sale
- reusable items sale/swap meet

The possibilities are limited only by the extent of your imagination.

4. Decide what kinds of materials you can or want to recycle

When deciding which materials to include in your program, consider the following:

- Which materials will my local recycler accept?
- Does the material fit the type of program I have selected?
- How will I collect and store the materials?
- How can I control contaminants? (Those materials that are donated, but not intended to be collected.)
- How will I transport the recyclables?

In the past, many programs began by recycling newspaper and/or aluminum cans because it was lucrative and the materials were easy to transport. However, with the increased interest in recycling, markets have opened for many other types of materials. It is now economically feasible to recycle many other materials. A preliminary waste audit (simply checking your trash receptacles to see what is being thrown away and in what quantities) can help you decide which materials to recycle. The following is a sampling of recyclable materials common to many schools and the surrounding community:

- Aluminum (other than cans)
- Aluminum beverage containers
- Batteries
- Drink boxes and milk cartons
- Glass food containers
- Glass beverage containers
- Lunch trays
- Plastic food and household supply containers
- Plastic beverage containers
- Polystyrene foam or food containers
- Paper (including white, mixed, computer, newspaper, magazines, junk mail, paperboard, cardboard, phone books)
- Steel/tin
- Yard waste
- Food waste

Remember, this is a list of common materials being recycled at this time. Recycling markets are evolving quickly, so it is important to stay informed of what materials are recyclable in your community and the prices paid for those materials. What is not recyclable today, may be recyclable tomorrow.

5. Contact Your Local Recycler

Your local recycler can play an important role in your program. They can provide you with information that will help you design your program, decide what materials to recycle, and determine your method of storing materials and transporting them to market. Sometimes, if it is cost-effective for the recycler, they will provide recycling containers and/or transportation for your program. If they cannot pick up from a single school, check with other schools in your district or in the area to see if you can offer pickup from multiple sites; either at each site or consolidated at one location.

Be sure to contact more than one recycler. Recyclers vary widely in the materials they collect,

the prices they pay and their ability to provide service, so do some comparative shopping. Your local waste hauler is another possible source of pickup service and your city or county recycling coordinator is a source of information on recycling services in your community. Use the *Local Government and Community Resources Section* in this guide to identify recyclers and local government recycling coordinators. The recyclers listed are required to accept beverage containers and generally accept other materials as well. You can also call the Division's toll-free hotline at **1-800-RECYCLE** (in CA only) to find out which recyclers are in your area, their hours of operation and what kind of recyclables they accept. Your telephone book's yellow pages lists local recyclers under the heading, "Recycling Centers".

6. Get Certified

If your program is going to collect beverage containers at your school, then you should get certified as a dropoff program. This will allow you to collect any volume of beverage containers and receive CRV for those containers. To become certified, request a dropoff application from the Division of Recycling's Certification Section by either calling **1-800-RECYCLE** (in CA only) and leaving a message or by calling (916) 324-8598. Becoming certified is easy to do and it's free!

7. Design the Collection and Storage System

To collect your in-school recyclables, locate receptacles such as boxes, bins or bags in each classroom. Use desk trays in the administrative offices. Provide separate receptacles in the lunch room for deposit of drink containers and lunch trays; identify storage near the food preparation area for cardboard and large steel cans. Assign a recycling monitor in each class to watch for contaminants and to disseminate new information. Ask the Environmental Club, Trash Patrol, a specific class or custodial staff to collect the materials using large rolling bins, carts or trash receptacles. You could also have a member from each class take the class-collected materials to the storage area on a daily or weekly basis. Store your recycled materials near the school trash bins, outside the cafeteria or at some other convenient location. Be sure your storage receptacles are clearly marked so that the contents are not mistaken for trash. Also make sure that your more valuable materials are either in a bin that locks or can be stored in an area that can be locked. Transport the materials to the local recycler by having the Ecology Club or Trash Patrol use volunteer transportation, by having the custodial staff use a school-owned vehicle or by arranging for the local recycler or waste hauler to provide pick-up service.

For dropoff, drive and event programs, use garbage dumpsters, boxes, bags or any other type of bin that is large and easy to empty. Receptacles can be located in a parking lot, near the school athletic field or at any other location that makes it convenient for people to drop off their recyclables. Collection and transportation can be facilitated by your local recycler, waste hauler, environmental or booster club members, maintenance or custodial personnel, parents or maybe an old-fashioned good samaritan.

8. Develop a Promotional Program and Decide What Incentives You Will Use to Encourage Participation

Advertise, advertise, advertise!!! Let students, faculty and the community know your program is there for them. Enlist the help of students with artistic talent to design notices and flyers that can be sent home as well as distributed in your community. Include information about the program in the school newsletter. Ask a reporter for the school newspaper to write an article on the program. Submit a program notice to your local newspaper and public access cable channel.

Incentives are also a very important aspect of a successful recycling program because they give people a reason to donate their recyclables to your program. Here is a list of a few ways to motivate your students and community members.

- Form a competition between classes, grade levels or schools in the district or area. An award such as a circulating trophy could be given to the group that collects the most recyclables during the year, passing to a new winner each year.

- Offer a reward when bins are filled to capacity within a predetermined amount of time.

- Designate a purpose for the funds that are raised. Announce at the beginning of the program that earnings will be used to purchase sports equipment, computers, library books, musical instruments, outdoor benches, items for campus beautification or donation to a charitable organization.

- Track the progress being made by showing how many trees have been saved (1 ton of recycled paper saves seventeen 35-foot trees) or how much energy is saved (recycling 1 aluminum can saves enough energy to run a TV set for 3 hours and recycling 1 glass bottle saves enough energy to light a 100 watt bulb for 4 hours.)

9. Close the Loop

While recycling is a big step in the right direction, it is not the only step you can take. We urge you to consider your current procurement policies. Many commonly ordered school supplies made of recycled material are available, including:

- ***Classroom Supplies:*** paper (binder, computer, construction, craft, scantron forms, butcher, newsprint, graph), composition books, lesson plan books, paint brushes, pencils and pens, folders and binders, rulers, scissors, glass and plastic labware

- ***Office Supplies:*** memo pads, desk trays, envelopes, Post-its, address labels, clipboards, file boxes and folders, index cards and boxes

- ***Bathroom Supplies:*** toilet seat covers, facial tissue, toilet paper, hand towels, plastic trash barrel liners, sponges, brooms, mops, rubber gloves

- ***Food Service:*** reusable plates, cups, and utensils, trash and recycling barrels, cooking utensils, sponges, rubber gloves, floor mats, plastic bags

Ask your suppliers what products they carry that are made from recycled materials. If they can't help you, find a supplier that can.

The Division of Recycling is also available to assist you with procuring school supplies made of recycled materials. To receive purchasing advice as well as a free brochure, *California Guides to Products with Recycled Content,* call **1-800-RECYCLE** (in CA only).

DISTINGUISHED SCHOOLS

The following California schools are considered "distinguished" by the Department of Conservation, not for winning a recycling award (although some have), but rather for implementing and maintaining creative and innovative recycling programs. These schools were selected from returned surveys contained in the Department's recycling education package. The Department acknowledges these schools for their outstanding efforts and hopes that they provide examples of inspiration to other California schools for establishing their own recycling programs.

If you feel your school is "distinguished," the Department of Conservation would like to hear from you. Please call our toll-free recycling hotline at **1-800-RECYCLE** (in CA only) or our *InfoCycle* electronic bulletin board at (916) 445-0518 (accessible by IBM-compatible or Apple computers) or write: Department of Conservation, Division of Recycling, Education Section, 801 K Street, MS 22-57, Sacramento, California 95814.

Rio Linda Union School District (RLUSD), Rio Linda

Since 1990, the RLUSD Food Service Department has been recycling almost half a million polystyrene lunch trays per school year, as well as cardboard, from each of its 20 school sites. Some schools in the district also recycle paper and most recycle aluminum cans. The district will begin aseptic container recycling, including milk cartons and drink boxes, in the spring of 1994. The District estimates that it saves approximately $400 per month on its garbage bill and has reduced waste going to the landfill by at least 25 percent.

Los Angeles Unified School District (LAUSD), Los Angeles

LAUSD recycles all types of paper, cardboard, aluminum cans and lunch trays, glass, plastic utensils and sporkettes, milk and juice cartons, polystyrene, automotive oil, tree trimmings, concrete and asphalt, tires, batteries, scrap metals such as brass, copper and steel, and silver from photographic emulsions. Collection of recyclables from over two-thirds of the district's 700 locations is provided by the district, which contracts with a waste hauler to service the remaining locations. Recyclables are picked up three times per week from recycling bins provided by the district. Materials are sold to local recyclers with whom the district has contracts. The District also participates in the City of Los Angeles' curbside recycling program. Schools located in areas of the City which have curbside recycling put specified recyclables out on the curb with other neighborhood residents for pickup and recycling by the City. The District's recycling program has contributed significantly to a 28.6 percent reduction in waste disposal costs since 1989, for a savings of approximately $850,000.

Sequoia Union High School District (SUHSD), Redwood City

SUHSD has been recycling white and colored paper, aluminum cans, waste oil, antifreeze, oil filters, offset fluids from the print shop and polystyrene foam since 1989. In 1990, SUHSD began to provide their schools with products made from recycled materials, including xerographic paper, toilet paper, paper towels, memo pads, "post-it" notes, calendar pads, printed and plain envelopes, scratch pads, adding machine tape and letter-quality bond paper. SUHSD is constantly looking for new products that can be recycled.

Nevada Union High School (NUHS), Grass Valley

NUHS has been recycling white, colored and computer paper, aluminum cans, cardboard and lunch trays for the past five years. Classroom recyclables are transferred weekly during 7th period to a centralized collection site. Classrooms rotate staffing of the collection site weekly so that all students are involved. Special education students sort and transport the paper to the county recycling center. Aluminum cans are placed in red-topped receptacles located next to trash cans around campus. The student body uses monies earned from its aluminum can recycling to send the special education students to Marine World Africa USA. Nevada Union has decreased the number of dumpsters it uses from 55 to 11 weekly for a savings ranging from $60,000 to $110,000 annually, depending on disposal fees charged. Savings have been used to retain 3 teachers.

NUHS believes it is important to involve as many students as possible in the program every week. To emphasize the importance of recycling, janitors did not pick up trash for one week to show students the seriousness of the trash problem and to promote responsibility and recycling. The program becomes easier to operate each year because more students are learning about recycling and waste management in the primary grades.

San Hedrin High School (SHHS), Willits

SHHS recycles aluminum cans, newspapers, glass bottles and paper. The paper is cut, made into notepaper packets and sold at school and in town. The school also picks up trash dumped in the streams that run through town. Monies raised from recycling are used for materials for the school's 1,750 gallon artificial stream environment. The artificial stream environment consists of 3 fiberglass tanks containing catfish, insects and amphibians. The water from the tanks empties into a natural underground filtration system, which drains into a sump and is recycled back into the tanks.

Jack London High School (JLHS), Van Nuys

In addition to recycling all classroom paper, newspapers and aluminum cans, JLHS also recycles rainwater for school irrigation.

Vacaville High School (VHS), Vacaville

Although VHS does not have an official school recycling program, the associated student body's recycling chairman and a group of students have painted trash cans and placed recycling bins in classrooms. At dances, the student council sells sodas and recycles the aluminum cans. During Homecoming, three large bins were set out, each representing a queen nominee. Aluminum cans were placed in these bins, and the nominee with the most aluminum cans had to kiss a pig in front of the entire student body.

Orestimba High School (OHS), Newman

The OHS environmental science class established a school recycling program to collect classroom paper, cardboard and aluminum cans. The aluminum can collection barrels were painted to look like soda cans and distributed throughout the campus. The monies earned from these recycling efforts have been designated for the planting and maintenance of a botanical garden at the school.

Costa Mesa High School (CMHS), Costa Mesa

CMHS's teacher for the hearing-impaired began recycling in the classroom to earn money for classroom supplies and field trips. Announcements were sent to faculty and staff notifying them of the program and many joined in. Staff began bringing recyclables from home and students began stopping by with recyclables, too. Students even bring in non-typical materials to find out if they can be recycled. The school is now recycling paper, newspapers, aluminum cans, cardboard, paperboard, glass, plastic, "junk" mail and metal. Instead of delivering recyclables to the recycling center once a month, the school now delivers recyclables twice each week!

Calaveras Hills High School (CHHS), Milpitas

CHHS has been recycling for more than six years. The school's annual aluminum can drive collects over 700 pounds of cans, with proceeds from last year's drive netting the student body over $1,000. Monies raised in the past three years have funded scholarships, guest speakers to discuss environmental issues and an annual spring barbeque.

E. V. Cain Middle School (EVCMS), Auburn

EVCMS's community service class is responsible for coordinating the school's recycling program. Their efforts have saved the school the use of one dumpster per week, for a savings of $100 each week. The community service class has also been trained by the Placer County Resource Conservation District to made recycling presentations to all K-6 classes at the five elementary schools in the district.

Spurgeon Intermediate School (SIS), Santa Ana

SIS's exploring technology class includes units on conservation and recycling, where the students learn to identify and sort recyclables. The recycled materials are turned into the local recycling center and the monies are used to buy materials and equipment for the class which the class could not otherwise afford. Materials recycled include computer, white and colored paper, chipboard, cardboard, newspaper, glass, aluminum cans, scrap metal, and plastic bags and bottles.

Cabrillo Middle School (CMS), Ventura

Students in CMS's life science classes collect, classify and count trash picked up throughout the school campus before and after lunch. After the results are compared and discussed, students make plans for protecting their local environment and print announcements in the school bulletin.

Las Posas Elementary School (LPES), Camarillo

LPES begins the school year with assemblies that remind the students of what is recycled on the campus. Third graders study recycling as part of their science unit at the beginning of the year, including a field trip to the local landfill. The school has been recycling all types of paper, cardboard, bottles and aluminum cans for three years. Last year, every student contributed a page to a school recycling book, which is kept in the school library.

A. E. Arnold Elementary School, Cypress

The A. E. Arnold Environmental Club, comprised of a boy and girl elected from each class, meets every other week. Members learn about recycling and relay this information back to their classmates. They also monitor classroom, cafeteria, and playground recycling and litter cleanup. These efforts have been videotaped to educate the other eight schools in the district about recycling.

Capistrano Avenue School (CAS), West Hills

Robin Mundhenk, a teacher at CAS, has recycled in her classroom for the past five years. Each year the students decide on one large item they want to obtain for their classroom with the monies they earn by recycling. To date, the students have purchased a 20-inch color television, a dual-cassette record player, a VCR, large speakers for the record player and an entertainment center to store all the equipment. The classroom gains valuable equipment, and the students learn they can make a difference by recycling. The entire school recycles classroom paper, aluminum cans and plastic soda bottles, and milk cartons, foil, plastic, and cardboard from lunch and breakfast.

Braddock Drive Elementary School (BDES), Culver City

BDES has participated in the Los Angeles Unified School District's "School Beautiful Contest" for the past six years. The school has won the Most Outstanding School Award for the past five years. Contest emphasis is on litter reduction, graffiti elimination, conservation and creativity. This year-round school holds contest assemblies and rallies for all tracks which include skits, posters, essays, songs and dances related to recycling, anti-graffiti and conservation. Winners were awarded with gold and silver cups, ribbons and certificates. The school recycles polystyrene foam trays, milk and juice cartons, plastic forks, paper and aluminum cans.

Trivia, Facts & Other Stuff

Recycle Rex™

TRIVIA, FACTS AND OTHER STUFF

The numbers following each trivia piece correspond to the numbers in the "Works Cited" section.

ALUMINUM:

Recycling 1 ton of aluminum saves the equivalent of 2,350 gallons of gasoline. This is equivalent to the amount of electricity used by the typical home over a period of 10 years. *(17)*

Americans throw away about 35 billion aluminum cans every year. If all of these cans were recycled, we would save an amount of energy equivalent to 150 Exxon Valdez oil spills annually. *(29)*

Americans discard enough aluminum to rebuild our entire commercial air fleet every 3 months. *(1)*

Using recycled aluminum beverage cans to produce new cans allows the aluminum can industry to make up to 20 times more cans for the same amount of energy. *(3)*

If aircraft carriers were made of aluminum beverage cans, more than 15 aircraft carriers could have been built in 1992 from the 1,070,331 tons recycled. *(3)*

The aluminum beverage can returns to the grocer's shelf as a new, filled can in as little as 90 days after collection, remelting, rolling, manufacturing and distribution. Consumers could purchase the same recycled aluminum can from a grocer's shelf every 13 weeks or 4 times a year. *(3)*

Every minute of every day an average of 119,292 aluminum cans are recycled. *(3)*

According to the U.S. Environmental Protection Agency (EPA), aluminum cans represent less than 1% of the nation's solid waste stream. *(3)*

Aluminum can recycling saves 95% of the energy needed to make aluminum from bauxite ore. Energy savings in 1992 were enough to light a city the size of Pittsburgh for 6 years. *(3)*

It's estimated that since 1972 some 13 million tons of aluminum cans have been recycled. These 534.7 billion aluminum cans placed end-to-end could stretch to the moon some 170 times. *(3)*

Recycling a six-pack of aluminum cans could save enough energy to drive a car 5 miles. One can equals the amount of energy a can half-full of gasoline would produce. *(26)*

One recycled aluminum can saves enough electricity to operate a TV for 3 hours. *(28)*

COMPOST:

In test corn plots in Minnesota, fields treated with both compost and fertilizer achieved yields 17% higher than fields spread with only commercial fertilizer. *(23)*

In the U.S., yard trimmings and food scraps make up about one-fourth of our waste stream. Composting is an effective way to decrease landfills. *(29)*

In Sacramento County, 150,000 cubic yards of grass clippings (or the equivalent of a 7 story building the size of a football field) are sent to landfills every year. *(25)*

Americans throw away about 10% of the food they buy at the supermarket. This results in dumping the equivalent of more than 21 million shopping bags full of food into landfills every year. *(10)*

One pound of red worms can consume half a pound of food waste every day. *(15)*

GLASS:

Recycling 1 ton of glass saves the equivalent of 10 gallons of oil. *(17)*

About 75% of the United State's glass is used for packaging. *(10)*

Americans throw away enough glass bottles and jars every 2 weeks to fill the 1,350-foot towers of the World Trade Center in New York. *(10)*

Most bottles and jars contain at least 25% recycled glass. Glass never wears out — it can be recycled forever. *(10)*

Recycling a glass bottle saves enough energy to light a 100-watt bulb for 4 hours. *(26)*

LANDFILLS:

The EPA predicts that by the year 2000, less than half of the remaining 6,000 municipal landfills in the U.S. will still be in use. *(12)*

Landfill gas has been used to carbonate soft drinks. *(10)*

We dump most of the magazines printed in the U.S. each year (about 8 million tons) into landfills. If we recycled just half of them, we could save over 12 million cubic yards of landfill space. *(10)*

The largest landfill in the world is located in rural Alabama. *(13)*

More than two-thirds of the material going into landfills is degradable. However, very little change occurs because moisture is the most important environmental variable of degradation. Landfills are kept as dry as possible to help prevent groundwater contamination from runoff. For example, newspapers are still readable more than 20 years after being thrown away. Food, such as T-bone steaks and hot dogs, remain relatively unchanged for more than a decade. *(7)*

OIL:

The world will need twice the raw materials in 2010 that it does today. Maintaining the same level of oil usage, will require discovering as much in the next 10 years as has been found in all of history. *(19)*

A quart of motor oil can pollute 250,000 gallons of water. *(10)*

Americans throw away enough used motor oil every year to fill 120 supertankers. *(10)*

One quart of oil has the potential to pollute 1 acre of land 1 inch deep. *(26)*

Do-it-yourself oil changes in the U.S. produce at least 200 million gallons of used oil each year. More than half of it is wasted. Recycling can provide enough power for 360,000 homes a year or produce 96 million quarts of high-quality motor oil. *(6)*

It is easier and cheaper to recycle used oil than to make new oil from crude. One gallon of used oil can produce the same amount of motor oil as 42 gallons of crude oil — while requiring about a third of the energy. *(6)*

PAPER:

If you're an average American, it's going to take 465 trees to provide you with a lifetime of paper. *(31)*

Americans throw away the equivalent of more than 30 million trees in newsprint each year. *(10)*

Americans discard 4 million tons of office paper every year. That's enough to build a 12 foot-high wall of paper from New York to California. *(10)*

In 1988, Americans used enough kraft paper for a person to take a brown bag lunch to school or work for 64 million years. *(10)*

The averages for white paper recycling in educational institutions were: high schools—5.3 pounds per student; middle/junior high schools—2.91 pounds per student; and elementary schools—1.41 pounds per student. *(32)*

If Americans recycled their phone books for a year, an estimated 650,000 tons of paper could be saved. *(10)*

Recycling half the world's paper would free 20 million acres of forest land. *(10)*

Recycling one stack of newspapers about 6 feet tall saves the life of one tree 35 feet tall. Recycling approximately 1 ton saves 17 trees. *(26)*

If you stacked up all the paper an average American uses in a year, the pile would be as tall as a two-story house. *(9)*

The junk mail Americans receive every day could produce enough energy to heat 250,000 homes for 1 day. *(18)*

Americans use about 30 billion cardboard boxes a year. That's enough to make a pile as big as a football field and as high as the World Trade Center in New York. If every person in America recycled just 1 box a month, more than a billion boxes a year could be kept out of landfills. *(18)*

If you and your family recycled a ton of writing paper, you would save as much as 7,000 gallons of water. How much water is that? You would have to drink 130 glasses every day for more than a year to get that much water. *(18)*

The EPA has found that making paper from recycled materials results in 74% less air pollution and 35% less water pollution. This means that every ton of recycled paper keeps almost 60 pounds of pollutants out of the atmosphere that would have been produced if the paper had been manufactured from virgin resources. *(20)*

More than half million trees are used to produce the 88% of Sunday newspapers that are never recycled. *(11)*

Every ton of recycled paper saves approximately 4 barrels of oil, 4200 kilowatt hours of energy and enough energy to heat and air-condition the average North American home for almost 6 months. *(28)*

PLASTICS:

Plastics are made from petroleum—a limited, nonrenewable resource. It is predicted that by the year 2040, the Earth's usable petroleum reserves will have been depleted. *(29)*

If the Pilgrims had six-packs, we'd still have the plastic rings from them today. *(10)*

It takes 1,050 recycled milk jugs to make a 6-foot plastic park bench. *(10)*

Although polystyrene foam is completely non-biodegradable, it is recyclable. *(10)*

If you lined up all the polystyrene foam cups made in just one day, they would circle the earth. *(9)*

Plastics are the fastest growing share of the U.S. wastestream accounting for 5% of household throwaways. Every American uses almost 200 pounds of plastic in a year — 60 pounds of it for packaging. *(26)*

According to Dr. Jack Milgram, a plastics analyst, "Recycling plastics saves twice as much energy as burning them..." *(26)*

In 1987, the U.S. used almost 1 billion barrels of oil (enough to meet the nation's oil demand for imported oil for 5 months) just to make plastics. *(26)*

When buried, some plastic materials may last for 700 years. (Manufacturers add inhibitors that resist the decomposition process necessary to break down the plastic.) *(26)*

Over 46,000 pieces of plastic debris float on every square mile of ocean. *(26)*

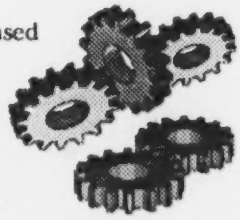
Americans use 4 million plastic bottles every hour ! -- yet only 1 bottle out of 4 is recycled. *(18)*

Americans make enough low density polyethylene (LDPE) plastic every year to shrink-wrap the state of Texas. Most of it ends up in landfills. *(18)*

Plastics are part of the wastestream: although they account for only 8% of the waste by weight, they occupy about 20% of the volume in a landfill due to their low bulk density. *(11)*

Being inert, plastic bags do not emit methane gas or liquid leachate—two common environmental problems of improperly managed landfills. *(21)*

STEEL:



About 70% of all metal is used just once and then discarded. The remaining 30% is recycled. After 5 cycles, only one-fourth of 1% of the metal remains in circulation. *(16)*

Every year enough energy is saved by recycling steel to supply Los Angeles with nearly a decade's worth of electricity. *(10)*

Every day Americans use enough steel and tin cans to make a steel pipe running from Los Angeles to New York and back again. *(10)*

Americans use 100 million tin and steel cans every day. Every minute, more than 9,000 tin cans are recovered from the trash with magnets. *(10)*

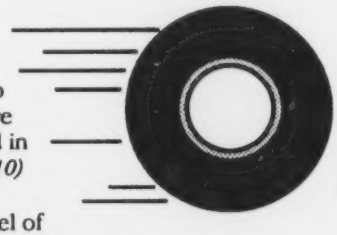
During the last decade, world steel makers recycled almost 2.5 billion tons of steel. *(10)*

In 1988, about 9 million steel automobile bodies — more than the U.S. auto industry produced that year — were recycled. *(10)*

Americans use 100 million steel cans a day. We throw away enough steel every year to build all the new cars made in America. *(18)*

Making tin cans from recycled steel takes only one-fourth of the energy needed to make them from new steel and creates only one-fourth of the water and air pollution created by making cans from new steel. *(18)*

TIRES:



An estimated 2 to 3 billion tires are currently stockpiled in the United States. *(10)*

It takes half a barrel of crude oil to produce the rubber in just 1 truck tire. *(10)*

Putting old tires around tomato plants can help the plants grow faster. *(10)*

People in Third World countries know the value of used tires. In India, they cut up tire scraps to make inexpensive shoes. *(10)*

About eight out of every ten tires in the U.S. wind up in landfills or "stockpiles." *(10)*

At one site near Modesto, California, 42 million tires are stockpiled. "Mount Goodyear," as it is nicknamed, is still climbing at 20,000 tires a day. *(26)*

One discarded tire can produce sufficient electricity for one home for a day. *(28)*

Artificial reefs, breakwaters and erosion control barriers made with whole tires can preserve precious natural habitats. *(27)*

WASTE:

In 1987, Americans generated almost enough trash to fill a 24-lane highway 1 foot deep from Boston to Los Angeles. *(5)*

In the United States we throw away 18 billion disposable diapers per year at a cost of 15-35 cents a piece (diaper services only charge 7-20 cents per diaper). *(17)*

In the United States we throw away the same amount of trash per person as we did in 1910 (a lot of coal ash was produced from heating homes). *(17)*

Americans throw away enough aluminum to rebuild the entire American air fleet 71 times, enough steel to reconstruct Manhattan and enough wood to heat 5 million homes for 200 years. *(26)*

In 1990, cities in California paid over $1 billion to get rid of their trash. Some cities have resorted to shipping their waste hundreds of miles away. Developing countries are being contracted as dumping grounds for U.S. trash. *(15)*

Americans represent only 5% of the world's population, but generate 30% of the world's garbage. *(30)*

In the United States we throw away enough garbage per day to fill 63,000 garbage trucks which hold 7-14 tons of trash. On an annual basis, we fill up enough garbage trucks to form a line that would stretch from earth halfway to the moon. *(17)*

Estimates indicate that over 14 billion pounds of trash are dumped into our seas each year by commercial and recreational boats. *(1)*

In a lifetime, the average American will throw away 600 times his or her adult weight in garbage. If you add it up, this means that a 150 pound adult will leave a legacy of 90,000 pounds of trash for his or her children. *(10)*

United States waste disposal is expected to cost $100 billion by the year 2000. *(10)*

The average baby generates a ton of garbage every year. *(10)*

For every $1,000 of fast food sales, 200 pounds of trash is created. *(26)*

Every day the average person creates 5 - 6 pounds of trash. *(26)*

Californians create about 46 million tons of trash every year, enough to fill 2 freeway lanes 100 feet deep from Oregon to Mexico. *(26)*

Americans make more than twice as much trash per person as people of other countries such as Japan and Germany. *(26)*

Of the garbage Americans throw out, half could be recycled. That's enough to fill a football stadium from top to bottom every day. *(15)*

MISCELLANEOUS:

Only about one-fourth of the paper, aluminum, iron and steel used in the world is recovered for recycling. *(4)*

Only Japan and the Netherlands collect more than half of their aluminum, paper and glass for recycling. In effect, these two countries require no raw materials for making paper and glass every 1 year out of 2. *(23)*

Our Litter & Its Decomposition Time:

- Glass Bottles/Jars 1,000,000 years
- Aluminum Cans 80-100 years
- Rubber Boot Soles 50-80 years
- Leather Items up to 50 years
- Nylon Material 30-40 years
- Plastic Bags/Disposable Diapers 10-20 years
- Plastic Coated Paper 5 years
- Wool Cap 1-5 years
- Cigarette Butts 1-5 years
- Orange and Banana Peels 2-5 weeks
- Newspaper 2-4 weeks

(24)

An average American uses 8 times the natural resources of the average world citizen — and produces 5 times the air pollution of the average world citizen. *(31)*

The world's forests are being destroyed at the rate of 1 acre per second. Every 16 minutes, a forest the size of New York's Central Park is destroyed. Every day, a forest the size of Philadelphia (74,000 acres) is lost, and every year, an area the size of Pennsylvania (27 million acres) is ruined. *(5,31)*

To date, scientist have named 1.4 million species of plants and animals, but estimate that between 5-30 million share our planet. Tropical rain forests, which are home to about half of all Earth's plant and animal species, are being destroyed at the rate of 100 acres per minute. *(29)*

Rechargeable batteries cost more than disposable batteries, but they save money in the long run because they can be recharged up to 1000 times ! If you take care of them, they can last up to 10 years ! *(18)*

Sixty percent of the world's lead supply comes from recycled car batteries. Virtually 100% of the car batteries returned to gas stations and battery dealerships get recycled. *(10)*

In 1989, enough scrap copper was recycled in the U.S. to supply the wiring and plumbing for every building constructed already that year. *(10)*

Recycling has created an estimated 30,000 jobs since 1970. In 1985, an estimated 2 million aluminum can collectors earned over 200 million dollars for their recycling efforts. *(2)*

HISTORICAL PERSPECTIVES:

Napoleon III is reported to have been the aluminum industry's first customer. The French emperor backed Henri-Etienne Sainte-Claire Deville's chemical extraction experiments. Deville developed a practical way to produce aluminum chemically. When the experiments produced the first aluminum in any quantity, it went into a rattle for the emperor's son. *(14)*

Napoleon had dinnerware made of aluminum. At this time, less important guests had to use gold and silver. *(14)*

The first "architectural" use of aluminum was the cast 100-ounce tip of the Washington Monument (which is still in place). *(14)*

The all-aluminum can was introduced in 1964. *(10)*

The biggest advance in glass manufacturing prior to the 19th century occurred in 200 B.C. when Babylonian craftsmen discovered the art of glass blowing — an art used until the 20th century, when even window glass is still being blown. *(22)*

In the mid-1930's, the first "sanitary landfills" were built in California and New York. These were really only open pit dumps, covered with dirt regularly to hide trash and cut down on flies, rats and odors. *(10)*

From the time of its development in 105 A.D. by the Chinese civil servant, Ts'ai Lun, to the early 19th century, the raw material of paper was rags. A chronic shortage of rags developed toward the end of the 18th century. More people were reading, more books were being printed and, consequently, the price of paper rose while the supply diminished. The results of the shortage were new papermaking methods: In 1802, Mathias Koop began making paper from straw and various wood pulps and on it printed a history of paper. In 1844, the mechanical pulper was developed; a chemical process followed ten years later. Once pulp could be made in large quantities, papermaking machines were quickly developed and trees began to be "digested" in large quantities. *(22)*

In 1868, John Wesley Hyatt invented the first plastic (celluloid) to make billiard balls during an ivory shortage that threatened the billiard industry.

In 1955, the Corvette became the first car built with plastic body panels. *(8)*

In 1982, the U.S. Army started using a helmet made of a plastic composite called Kevlar® — the same material in bulletproof vests used by police officers. The plastic helmet is about 30% more effective at stopping shell fragments. *(8)*
®Trademark of E.I. DuPont & Company, Inc.

Photographic film made with celluloid (one of the first plastics) was perfected in the late 1800's. Celluloid film led to a new era in entertainment, the motion picture. *(8)*

In 1989, more than 90,000 African elephants were killed for their ivory. Even when most countries prohibited commercial trade of ivory, poaching still occurred. However, the increased use of plastic as an ivory replacement has reduced the demand and price of ivory, making poaching less profitable. *(8)*

During the raw materials shortage of World War II, virtually all of the world's silk was used up in the war effort. As a result, women's silk stockings were replaced with nylon stockings. Today, we just call them "nylons." *(8)*

During World War I, reducing the weight of bicycles saved 2,000 tons of steel. *(10)*

By 1915, 89% of all major U.S. cities had municipal garbage collection service. *(10)*

Curbside recycling originated in 1874 in Baltimore. *(10)*

The compacting garbage truck, called the "Packer," was introduced in 1950. *(10)*

The first incinerator was commissioned in New York City in 1885. *(10)*

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Supplementary Materials

ACTIVITY BOOKLETS, COLORING & COMIC BOOKS

Adventures of the Garbage Gremlin: Recycle and Combat a Life of Grime.
Grades 4-7, Free.
(comic book that introduces students to recycling concepts)
US Environmental Protection Agency, 401 M St. SW, Washington, DC 20460. Contact: Public Information Office (202) 260-2080.

Become an Environmental Shopper - It's Fun.
Grades 2-6, $2.95.
(an activity book that teaches waste reduction)
Pennsylvania Resources Council, P.O. Box 88, Media, PA 19063. Contact: Mrs. Becker (215) 565-9131.

Coloring Books Featuring "Trash Can Dan."
Grades K-6, Free.
(coloring books come in a series of five; character "Trash Can Dan" teaches waste reduction)
Delaware Solid Waste Authority, P.O. Box 455, Dover, DE 19903. Contact: Teren Gordon (302) 739-5361.

Comic Book.
No grade specified, Minimum order of 10 / Minimum price of $10.00.
(16-page full color San Diego edition comic book featuring Archie and his friends battling the six most common toxic products found in the home)
Environmental Health Coalition, P.O. Box 85261, San Diego, CA 92186-5261. Contact: Pam Jackson (619) 338-2175.

Don't Mess With Texas Beaches.
Grades K-12, Free.
(coloring book that teaches children about marine debris and its harmful effects)
Adopt-a-Beach Program, General Land Office, Stephen F. Austin Bldg., Rm. 620, 1700 N. Congress, Austin, TX 78701. (512) 463-5052.

Garbage Math.
Grades K-6, Free.
(a one-page sheet with fun activities that teach children about waste management)
Group for Recycling in Pennsylvania, P.O. Box 4806, Pittsburgh, PA 15206. Contact: Julie Murphy (412) 661-4447.

The Great Glass Caper.
Grades 4-6, Free.
(an educational program designed to teach students about the benefits of recycling)
Glass Packaging Institute, 1627 K St., Ste. 800, Washington, DC 20006. (202) 887-4850.

Hands-on Recycling.
Grades 3-4, 2 week loan.
(reproducible worksheets and activities with some background information)
Snohomish County SWMD, Wall Street Bldg., 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Increasing Solid Waste Awareness in the Classroom: Lessons in Resource Recovery.
Grades K-12, $2.25.
(a series of 15 activities plus games and puzzles designed to promote awareness of solid waste issues)
MSU Extension Service, G-4215 W. Pasadena Ave., Flint, MI 48504. Contact: Francis X. Rosica (313) 732-1470.

The Land We Depend On.
Grades 5-12, Free.
(activity and informational booklet on solid wastes and recycling)
Illinois Environmental Protection Agency, Office of Public Information/Division of Land Pollution Control, 2200 Churchill Rd., P.O. Box 19276, Springfield, IL 62794-9276.
Contact: Kathy Shrake (Public Information #5) (217) 782-5562.

Let's Learn About Recycling.
Grades 5-7, $1.00.
(activity book that teaches recycling)
Channing L. Bete, Inc., 200 State Rd., South Deerfield, MA 01373. (800) 628-7733.

Let's Recycle.
Grades 1-4, $1.00.
(coloring and activity book for young children)
Channing L. Bete Inc., 200 State Rd., South Deerfield, MA 01373. (800) 628-7733.

Mister Rogers' Activity Book for Young Children.
Preschool, $1.50.
(teaches children lessons on reuse and recycling; also has words and music to songs in companion video [see video section for listing])
Keep America Beautiful, 9 West Broad St., Stamford, CT 06902. Contact: Becky Lyons
(203) 323-8987.

Mobius Fun Book.
Grades K-3, $0.35.
(a fun book full of educational puzzles and activities for children)
Browning-Ferris Industries, 333 Shoreway Rd., San Carlos, CA 94020 Contact: Laurie Moore
(415) 637-1411.

Nature's Recyclers: An Activity Guide.
Grades K-5, $0.50.
(a guide with exciting activities that stress the importance of saving the environment; please bulk order)
Wisconsin Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707. Contact: Joel Stone
(608) 266-2711.

Nature's Recyclers Coloring Book.
Grades K-3, $0.15.
(a fun coloring book that shows what should be done with our waste; please bulk order)
Wisconsin Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707. Contact: Joel Stone
(608) 266-2711.

Protecting Our Planet.
Grades 4-8, 2 week loan.
(reproducible student activity pages with background information; also, gamesheet with reproducible playing cards)
Snohomish County SWMD, Wall Street Bldg., 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Recycle It.
Grade 4, Free.
(an activity booklet that teaches recycling)
Florida Dept. of Education, Office of Environmental Educatic n, 325 W. Gaines, Rm. 224-C, Tallahassee, FL 32399. Contact: Robert Raze (904) 487-7905.

Rodney Recycle Comic Book.
Grades K-5, Free.
(a comic book for elementary ages featuring "Rodney Recycle")
Browning-Ferris Industries, 333 Shoreway Rd., San Carlos, CA 94020 Contact: Laurie Moore
(415) 637-1411.

Sleuth: Educational Activities on the Disposal of Household Hazardous Waste.
Grades 4-12, Cost unlisted.
(collection of classroom activities that present the issues of household hazardous waste disposal; activities include "Master Sleuth," where the student, as detective, tracks down where waste goes, problem solving exercises, a disposal game, a series of activities designed to get the student thinking about the bigger picture, and supplemental activities and worksheets)
METRO, Water Resources Section, HHW Project, 821 Second Ave., Seattle, WA 98104-1598. Contact: Linda Balagot (206) 684-1233.

Solid Waste Activity Packet.
Grades K-12, Free.
(an activity packet that teaches solid waste management)
Illinois Dept. of Energy & Natural Resources, Office of Solid Waste & Renewable Resources with the University of Illinois Cooperative Extension Service. 325 W. Adams St., Rm. 300, Springfield, IL 62704-1892. Contact: Timothy Warren (Director, Office of Solid Waste & Renewable Resources)
(217) 785-2800.

Splish Splash.
Grades K-2, Free, plus $2.00 shipping and handling.
(an activity guide on water quality)
North Carolina Big Sweep, P.O. Box 550, Raleigh, NC 27602. Contact: Susan Bartholemew
(919) 856-6686.

Steel Recycling Learning Sheets.
Grades K-12, Free.
(individual master copies of activity sheets focused on steel recycling)
Steel Recycling Institute, 680 Andersen Drive, Pittsburgh, PA 15220. Contact: Mary Norton
(412) 922-2772 or (800) 876-7274.

Wee Recyclers.
Grades preschool-K, $12.70.
(an activity binder with stickers, magnets, colored stories, masters for a felt board and eleven posters; please bulk order)
Wisconsin Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707. Contact: Joel Stone
(608) 266-2711.

BOOKS

50 Simple Things Kids Can Do to Save the Earth.
Grades 2-12 (not limited to these specific grade levels), $6.95.
(a booklet of eco-experiments for children, including background information and the how-to's of community involvement)
The EarthWorks Group. Andrews and McMeel, P.O. Box 419242, Kansas City, MO 64141.
Contact: Customer Service (800) 826-4216.

53 Simple Things Universities and Colleges Can Do to Reduce Waste.
College level, $10.00.
(this guidebook is intended to help colleges and universities improve waste reduction and recycling activities on campus)
Integrated Solid Waste Management Office, Board of Public Works, City of Los Angeles, City Hall East, Rm. 580, 200 N Main St., Los Angeles, CA 90012.
Contact: Joan Edwards, Director (213) 237-1444.

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Conservation: The Challenge of Reclaiming Our Plundered Land.
Grades 7-12.
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Deciding How to Live on Spaceship Earth.
Grades 7-12.
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Dreams of a Perfect Earth.
Grades 5-6.
Milne, M. (1982). New York: Atheneum.

Earth Book for Kids.
Grades 2-12, $9.95.
(book includes earth-friendly activities for children, parents and teachers)
The Learning Works, P.O. Box 6187, Santa Barbara, CA 93160. Contact: Rae Arronoff (805) 964-4220.

Earth, the Great Recycler.
Grades 7-12.
Russell, H.R. (1972). Nashville: T. Nelson.

The Ecological Conscience: Values for Survival.
Grades 7-12.
Disch, R. (1970). Englewood Cliffs, NJ: Prentice-Hall.

Ecology.
Grades 7-12.
Gutnik, M.J. (1984). New York, NY: F. Watts.

Ecology and Pollution - Water.
Grades 7-12.
Gutnik, M.J. (1973). Chicago: Children's Press.

Ecology, Science of Survival.
Grades 7-12.
Pringle, L. (1971). New York, NY: Macmillan.

The Environment.
Grades 7-12.
Adler, I. (1976). New York: John Day & Co.

Every Day is Earth Day.
Grades 2-4.
Podendorf, I. (1971). Chicago: Children's Press.

Everyone's Trash Problem.
Grades 7-12.
Hyde, B.G. & Hyde, M.O. (1979). New York: McGraw-Hill.

Garbage Delight.
Grades K-1.
Lee, D. (1978). New York: F. Watts.

Garbage - Where It Comes From, Where It Goes.
Grades 3-6, 2 week loan.
(a Nova book, with color photographs, illustrations and information in a readable style)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Good Planets are Hard to Find.
Grades 6-8, $7.00.
(an environmental information guide, dictionary and action book)
Earth Beat Press, P.O. Box 8110-729, Blain, WA 98230. Contact: Roma Dehr (604) 736-6931.

How Do They Get Rid of It?
Grades 7-12.
Hilton, S. (1970). Philadelphia: Westminster Press.

The Importance of Being a Garbologist.
No grade specified, $1.25.
(a twelve-page booklet on understanding garbage)
Group for Recycling in Pennsylvania, P.O. Box 4806, Pittsburgh, PA 15206. Contact: Julie Murphy (412) 661-4447.

Industrial Pollution.
Grades 7-12.
Stwertka, A. & Stwertka, E. (1981). New York, NY: F. Watts.

It's Your Environment.
Grades 7-12.
Environmental Action Coalition. (1976). New York, NY: Scribner.

Just a Dream.
No grade specified.
(about a boy who is indifferent to recycling and contemptuous of trees and his dream of a depressing future world that results from attitudes like his)
Allsburg, C.V. (n.d.) Boston, MA: Houghton.

Junk.
Grades K-1.
Ward, N. (1984). Bridgeport, CT: Merrimack.

Keeping Our Cities Clean.
Grades 5-6.
Olney, R.R. (1979). New York, NY: J. Messner.

Kid Heroes of the Environment: Simple Things Real Kids are Doing to Save the Earth.
Grades 4-12, $4.95.
(real life stories of kids ranging in age from 6-15 and what they are doing to help save the earth)
The EarthWorks Group, 1400 Shattuck Ave. #25, Berkeley, CA 94709. (510) 841-5866.

Kids Ecology Book.
Grades 3-5, $8.00.
(an environmental information guide, dictionary and action book)
Earth Beat Press, P.O. Box 8110-729, Blain, WA 98230. Contact: Roma Dehr (604) 736-6931.

Laying Waste: The Poisoning of America by Toxic Chemicals.
Grades 7-12.
Brown, M. (1980). New York, NY: Pantheon.

Let's Be Nature's Friend!
Grades K-1.
Stokes, J. (1977). New York: H.Z. Walch.

Likeable Recyclables.
Grades 6-9, $9.95.
(book that shows fun ways to make things with recyclables)
The Learning Works, P.O. Box 6187, Santa Barbara, CA 93160. Contact: Rae Arronoff (805) 964-4220.

Litter: The Ugly Enemy.
Grades 2-4.
Shuttlesworth, D.E. (1972). New York, NY: Doubleday.

Lives at Stake: The Science and Politics of Environmental Health.
Grades 7-12.
Pringle, L. (1980). New York, NY: Macmillan.

The Long, Long Pollution Crisis.
Grades 7-12.
Petit, T.S. (1975). New York, NY: Putnam.

Man's Mark on the Land.
Grades 5-6.
Gregor, A.S. (1974). New York, NY: Scribner.

Miss Rumphius.
No grade specified.
(about a girl named Alice Rumphius who travels the world over, but before she settles down in her house by the sea, she keeps her childhood promise to do something to make the world a more beautiful place)
Cooney, B. (1982). New York, NY: Viking.

The Mud Grump.
Grades K-1.
Greene, J. (1980). Lexington Park, MD: Golden Owl.

Natural Resource Conservation.
No grade specified.
(discusses the degradation of various ecosystems, and solutions to the problem)
Owen, O.S. (1980). New York, NY: Macmillan Publishing Company, Inc.

Nature's Assistant.
Grades 2-4.
Cox, V. (1974). New York, NY: Golden Press.

Naturescope.
Grades K-8, $7.95 per issue, $99.00 for complete library
(separate publications concentrating on environmental issues such as insects, geology, reptiles, weather birds, trees, astronomy, endangered species, oceans, wild rainforests and insects, astronomy, discovery pack, wetlands, mammals and pollution)
National Wildlife Federation, 1400 16th St. NW, Washington, DC 20036. (800) 432-6564.

The New Environmental Handbook.
Grades 7-12.
DeBell, G. (ed). (1980). San Francisco, CA: Friends of the Earth.

The New York Times Encyclopedic Dictionary of the Environment.
Grades 7-12.
Sarnoff, P. (1971). New York, NY: Quadrangle Books.

Now or Never: The Fight Against Pollution.
Grades 7-12.
Halacy, D.S. (1971). New York, NY: Four Winds Press.

Once There Was a Stream.
Grades 2-4.
Rothman, J. (1973). Merrick, NY: Scroll Press.

Only Earth We Have.
Grades 7-12.
Pringle, L. (1970). New York, NY: Macmillan Publishing Company, Inc.

Only One Earth: The Care and Maintenance of a Small Planet.
Grades 7-12.
Ward, B. (1972). Glendale, CA: Norton.

Our Dirty Land.
Grades 5-6.
Elliott, S.M. (1976). New York: J. Messner.

Our Dirty Water.
Grades 5-6.
Elliott, S.M. (1973). New York: Grosset & Dunlap.

Our Polluted World: Can Man Survive?
Grades 7-12.
Perry, J. (1972). New York, NY: F. Watts.

Poisoned Land: The Problem of Hazardous Waste.
Grades 5-12.
Kiefer, I. (1981). New York, NY: Atheneum.

Pollution.
Grades K-1.
Breiter, H. (1978). Milwaukee, WI: Raintree.

Pollution.
Grades 2-4.
Breiter, H. (1978). Milwaukee, WI: Raintree.

Pollution.
Grades 5-6.
Woods, G. & Woods, H. (1985). New York, NY: F. Watts.

Pollution: The Waters of the Earth.
Grades 7-12.
Jones, C. (1971). Minneapolis, MN: Lerner Publications.

Protecting Our Environment.
Grades 7-12.
McClellan, G.S. (1970). New York, NY: H.W. Wilson.

Ranger Rick's Answer Book.
Grades 2-4.
Robinson, H. (ed). (1981). Vienna, VA: National Wildlife Federation.

Reaching for Connections - Creative Ideas for Teachers, Parents and Interpreters.
Grades K-12, $5.50 per volume.
(two volumes full of educational ideas)
Schlitz Audubon Center, 1111 E. Brown Deer Rd., Milwaukee, WI 53217. Contact: Robert Nichols (414) 351-4220.

Recycling.
Grades 6-9, 2 week loan.
(comprehensive look at solid waste issues and solutions, with black and white photographs)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Recycling: Reusing Our World's Solid Wastes.
Grades 7-12.
Hahn, J. & Hahn, L. (1973). New York, NY: F. Watts.

Recyclopedia.
Grades 4-6.
(developed at the Boston Children's Museum, the book explores games, science equipment and crafts from recycled materials)
Simmons, R. (1976). Boston, MA: Houghton Mifflin Company.

Save the Earth: An Ecology Handbook for Kids.
Grades K-1.
Miles, B. (1974). New York, NY: Knopf.

The Shrinking Outdoors.
Grades 7-12.
Jennings, G. (1972). Philadelphia: Lippincott.

Teachables from Trashables: Homemade Toys that Teach.
Grades preschool-2, $14.95.
(toys and crafts kids make by reusing trash)
Redleaf Press, 450 N. Syndicate, Ste. 5, St. Paul, MN 55104. (800) 423-8309.

Terracide: America's Destruction of Her Living Environment.
Grades 7-12.
Linton, R.M. (1970). Boston, MA: Little, Brown & Co.

Three Drops of Water.
Grades 2-4.
Kalina, S. (1974). New York, NY: Lothrop, Lee & Shephard.

Throwing Things Away.
Grades 7-12.
Pringle, L. (1986). New York, NY: Crowell.

Tons of Trash.
Grades 5-8, 2 week loan.
(reasons why we should recycle and what happens when we do)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201.
Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

To the Rescue: Seven Heroes of Conservation.
Grades 7-12.
Vandivert, R. (1982). New York, NY: F. Warne.

Too Much Garbage.
Grades 2-4.
Lauber, P. (1974). Champaign, IL: Garrard.

Toxic Threat.
Grades 7-12.
Zipko, S. (1986). New York, NY: F. Messner.

Toxic Waste: Cleanup or Coverup.
Grades 7-12.
Weiss, M. (1984). New York, NY: F. Watts.

Trash!
Grades 1-5, 2 week loan.
(color photographs with explanatory text on solid waste issues)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201.
Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Trash Attack.
Grades 4-6, 2 week loan.
(fun, colorful illustrations in an appealing format that presents solid waste information)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201.
Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

The Trip of a Drip.
Grades 5-6.
Cobb, V. (1986). Boston, MA: Little, Brown & Co.

The Waste Watchers: A Citizen's Handbook for Conserving Energy and Resources.
Grades 7-12.
Purcell, A.H. (1980). New York, NY: Anchor Books.

Wastes.
Grades 7-12.
Miller, C.G. (1986). New York, NY: F. Watts.

Water: A Scarce Resource.
Grades 7-12.
Gilfond, H. (1978). New York, NY: F. Watts.

Water for the World.
Grades 5-6.
Branley, F. (1982). New York, NY: Crowell Jr.

Water Resources.
Grades 5-6.
Hanmer, T. (1985). New York, NY: F. Watts.

Water, the Life Sustaining Resource.
Grades 7-12.
Gardner, R. (1982). New York, NY: J. Messner.

Water: The Next Great Resource Battle.
Grades 7-12.
Pringle, L. (1982). New York, NY: Macmillan.

Water: Too Much, Too Little, Too Polluted.
Grades 7-12.
Goldin, A. (1983). New York, NY: Harcourt Brace Jovanovich.

We Are the Targets: The Story of Environmental Impact.
Grades 7-12.
McKenna, H.J. (1980). New York, NY: Richards Rosen Press.

What a Load of Trash.
Grades 4-7, 2 week loan.
(a lighter look at household waste through colorful, cartoon-type drawings and written information)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201.
Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

What Happens to Garbage?
Grades 2-4.
Beame, R. (1975). New York, NY: J. Messner.

What Shall We Do With the Land?
Grades 5-6.
Pringle, L. (1981). New York, NY: Crowell.

Where Does the Garbage Go?
Grades K-1.
Showers, P. (1974). New York, NY: Crowell.

Who Cares? I Do.
Grades K-1.
Leaf, M. (1971). New York, NY: Lippincott.

Who Is Poisoning America.
Grades 7-12.
Nader, R. (ed.). (1981). San Francisco, CA: Sierra Club Books.

Who Will Wash the River?
Grades K-1.
Orlowsky, W. (1970). New York, NY: Coward-McCann.

The World You Inherit: A Story of Pollution.
Grades 7-12.
Navarra, J.G. (1970). New York, NY: Natural History Press.

The Wounded Earth.
Grades 7-12.
Marzani, C. (1972). Reading, MA: Young Scott Books.

CATALOGS

Alameda County Office of Education - Catalog of Publications, Videos and Films.
Grades K-12, Free.
(catalog of publications, videos and films regarding environmental awareness as well as other topics)
Alameda County Office of Education,
313 W. Winton Ave., Hayward, CA 94544-1198.
Contact: Media Sales (510) 887-0152.

Brochure.
Grades K-12, Free.
(simple listing of extra materials available, i.e., pencils, litter bags, videos, etc.)
Refuse Industry Productions Inc., P.O. Box 1011,
Grass Valley, CA 95945. Contact: Pat Berger
(916) 274-3092.

Disney Educational Programs - Film, Video and Filmstrip Catalogs.
Grades K-12, Free.
(both catalogs contain programs covering a range of curricular subject areas including environmental titles)
Coronet/MTI Film & Video, P.O. Box 2649,
Columbus, OH 43216. (800) 777-8100.

Illinois Department of Educational Programs.
Grades K-12, Free.
(a catalog of videos and written materials, including a concentration on recycling)
Illinois Dept. of Energy and Natural Resources,
100 W. Randolph, Ste. 11-600, Chicago, IL 60601
(for videos use the Chicago address).
Illinois Dept. of Energy & Natural Resources,
325 W. Adams St., Rm. 300, Springfield,
IL 62704-1892 (for written material use the Springfield address). Contact: Alice Lane
(312) 814-3895.

McDonald's Educational Resource Catalog.
Grades K-12, $0.80.
(reference guide for other materials)
McDonald's Educational Resource Center,
P.O. Box 8002, St. Charles, IL 60174-8002.
(800) 627-7646.

National Wildlife Federation Catalog.
Grades K-12, Free.
(nature discovery kits, books, videos, games, activity kits and gifts)
National Wildlife Federation, 1400 16th St. NW,
Washington, DC 20036. (800) 432-6564.

Publications Catalog: Educational Resources.
Grades K-12, Free.
(annotated catalog that includes publications from all aspects of education)
California Dept. of Education, Bureau of Publications, Sales Unit, P.O. Box 271, Sacramento, CA 95812-0271. (916) 445-1260.

Publications: Materials for Schools, Businesses, Consumers and Municipalities.
Grades K-12, Free.
(a catalog of publication materials)
Pennsylvania Resources Council, P.O. Box 88,
Media, PA 19063. (215) 565-9131.

Recyclosaurus.
Grades K-8, Free.
(a listing of promotional items that can be ordered for recycling programs, festivals and awareness days)
Creative Printing and Publishing,
757 W. Highway 17-92, Longwood, FL 32750.
Contact: Rick Roy or Tom Socat (800) 780-4447.

Refuse Industry Production, Inc.'s Catalog.
Grades K-12, Free.
(a catalog of videos, recycling curricula, teaching aids, promotional items and community-school gifts)
Refuse Industry Production, P.O. Box 1011,
Grass Valley, CA 95945. Contact: Jill Bolus
(916) 274-3092 or (800) 576-3092.

Sunburst Wings for Learning.
Grades K-12, Free.
(listing of videos and software regarding environmental issues)
Sunburst Communications, 101 Castleton St.,
Pleasantville, NY 10570. Contact: Sean Brown
(800) 321-7511.

Tools for the Environmental Teacher.
Grades K-12, $2.00 plus $1.00 shipping and handling.
(an annotated bibliography of household hazardous waste educational materials and curricula from the US and Canada)
Household Hazardous Waste Project,
1031 E. Battlefield, Ste. 214, Springfield, MO 65807.
Contact: Sarah Dewey (417) 889-5000.

Waste Education Clearinghouse Listing of Materials Available.
Grades K-12, Free.
(a catalog of free waste education materials)
Waste Education Clearinghouse, Minnesota Office of Waste Management, 1350 Energy Lane, St. Paul, MN 55108. Contact: Debra McKinley
(800) 877-6300.

CURRICULA

The 4 R's.
Grades preschool-12, $3.00 each (preschool-3, 4-5, 6-8) and $4.50 (9-12).
(set of curricula materials; received the SWANA award for best K-12 curricula in 1991)
Florida Dept. of Education, Office of Environmental Education, 325 W. Gaines, Rm. 224-C, Tallahassee, FL 32399. Contact: Robert Raze (904) 487-7905.

4th R - Recycling Curriculum.
Grades K-5, $10.00.
(developed by San Francisco schoolteachers; lessons aimed at teaching students how their actions and habits can make a difference in preserving natural resources and saving energy)
San Francisco Recycling Program, 1145 Market St., Ste. 401, San Francisco, CA 94103. Contact: Roopal Mayor (415) 554-3411 or (415) 584-9706.

AVR Teacher's Guide for Solid Waste and Recycling Education.
Grades K-12, $45.00.
(curriculum is applicable to science, social studies, and language arts; it contains 60 activities and a resource section listing publications and organizations)
Association of Vermont Recyclers, P.O. Box 1244, Montpelier, VT 05601. (802) 229-1833.

A-Way With Waste.
Grades K-12, $28.50.
(curriculum, interdisciplinary activity guide and teacher training workshops)
Washington State Dept. of Ecology, 3190 160th Ave. SW, Bellevue, WA 98008. Contact: Jan Lingenfelter (206) 649-7043.

Bags, Beakers and Barrels: An Action Curriculum Toward Resolving Hazardous Materials Issues.
Grades 6-12, $20.00 with three-ring binder, $15.00 without the binder.
(a teacher's guide with 35 activities that highlight problem-solving and critical thinking; curriculum culminates in a class-community action project)
Industrial States Policy Center, 17 E. Brickel St., Columbus, OH 43215. Contact: Scott Spicer (614) 224-4111.

Blueprint for a Green Campus.
Grades K-12, cost unlisted.
(an environmental education resource guide)
Project Eco-School, 881 Alma Real Dr., Ste. 301, Pacific Palisades, CA 90272. Contact: Mary Edie (Outreach Director) (310) 454-4585.

The California State Environmental Education Guide.
Grades K-6, $17.95 plus tax.
(a curriculum guide for the elementary grades)
Alameda County Office of Education, 313 W. Winton Ave., Hayward, CA 94544-1198. Contact: Media Sales (510) 887-0152.

Classroom Activities.
Grades K-12, Free.
(booklet of classroom activities focused on waste management, reduction, and recycling)
Maine Waste Management Agency, Office of Waste Reduction and Recycling, State House Station #154, Augusta, Maine 04333. Contact: Jody Harris (207) 289-5300 or (800) 662-4545.

Classroom Activities Booklet.
Grades K-12, Free.
(classroom activities for all ages that teach recycling; limit one copy per school)
American Plastics Council, 1275 K St. NW, Ste. 500, Washington, DC 20005. (800) 2-HELP-90.

Classroom Activity Packets.
Grades K-2, 3-5, 6-8 and 9-12, $5.00 each.
(activity packets focused on recycling; each packet includes 12 lessons with masters for overhead transparencies)
Oregon Dept. of Environmental Quality, 811 SW 6th St., Portland, OR 97204-1390. Contact: Happi Hansen (503) 229-6709.

Completing the Cycle - It's Up to Me. Responsibility for the Environment.
Grades K-3, $3.50.
(classroom activities for understanding significant environmental issues)
Indiana Dept. of Education, Center for School Improvement and Performance, Office of School Assistance, Rm. 229, State House, Indianapolis, IN 46204-2798. Contact: Joe Wright (Environmental Science Consultant) (317) 232-9141.

Completing the Cycle - It's Up to You.
Grades 4-8, $3.50.
(classroom activities for understanding significant environmental issues)
Indiana Dept. of Education, Center for School Improvement and Performance, Office of School Assistance, Rm. 229, State House, Indianapolis, IN 46204-2798. Contact: Joe Wright (Environmental Science Consultant) (317) 232-9141.

Compost! A Teacher's Guide to Activities and Resources in the East Bay.
Grades K-6, $5.00.
(guide designed to assist teachers in introducing the concept of composting to students in the classroom, indoors or outdoors)
Alameda County Home Composting Education Program, c/o Alameda County Waste Management Authority, 1933 Davis St., #308, San Leandro, CA 94577. Contact: ROTLINE (510) 635-6275.

Connections: A Curriculum in Appropriate Technology for 5th and 6th Grades.
Grades 5-6, $7.00.
(curriculum guide for elementary students that includes lessons on environmentally acceptable technology)
National Center for Appropriate Technology, P.O. Box 4000, Buttem, MT 59702. Contact: Dolores Atchison (406) 494-4572.

Curriculum, Grades 4-6.
Grades 4-6, $15.00.
(curriculum book on environmental health is divided into 4th, 5th and 6th grade units; each has an introduction and two lessons, an activities packet and a reference section at the end)
Environmental Health Coalition, P.O. Box 85261, San Diego, CA 92186-5261. Contact: Pam Jackson (619) 338-2175.

Curriculum, Grades 7-9.
Grades 7-9, $15.00.
(curriculum book on environmental health is divided into three units with three related lessons in history, social science, science and English/ language arts)
Environmental Health Coalition, P.O. Box 85261, San Diego, CA 92186-5261. Contact: Pam Jackson (619) 338-2175.

Don't Waste Waste.
Grades 4-8, $4.00.
(32 activities on waste prevention and recycling; primary focus is social studies and hands-on activities)
Environmental Action Coalition, 625 Broadway, New York, NY, 10012. Contact: Stephen Richardson (212) 677-1601.

Earth Forever.
Grades K-12, Free.
(encourages student action to improve environmental conditions; hands-on activities)
Indiana Dept. of Education, Center for School Improvement and Performance, Office of School Assistance, Rm. 229, State House, Indianapolis, IN 46204-2798. Contact: Joe Wright (Environmental Science Consultant) (317) 232-9141.

Ecology.
Grades 4-7, 2 week loan.
(thematic unit; reproducible worksheets for students with some hands-on activities)
Snohomish County SWMD, Wall Street Bldg., 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Ecology Action Workbook and Dictionary.
Grades 9-12, $3.00.
(workbook that assists students in setting-up ecology clubs and projects; also contains an extensive dictionary of environmental terms)
Earth Beat Press, 250 H St. or P.O. Box 8110-729, Blain, WA 98230. Contact: Roma Dehr (604) 736-6931.

Ecology in Action - Recycling Education Curriculum.
Grades K-6, $11.00.
(educational material on the environment and recycling for elementary grades)
The Ecology Center, 2530 San Pablo Ave, Berkeley, CA 94702. (510) 548-2220.

Educator's Packet on Marine Debris.
Grades K-12, Free.
(extensive teacher's packet; includes posters, stickers, articles and pamphlets)
Center for Marine Conservation. For actual material, write to NOAA's Marine Debris Information Office, 312 Sutter St., Ste. 606, San Francisco, CA 94108. Contact: Marci Glazer (415) 391-6204.

Elementary Environmental Science Resource Unit.
Grades K-6, $4.00.
(curriculum guide on environmental science; bulletin #1722)
Louisiana Dept. of Education, Bureau of Secondary Education, P.O. Box 94064, Baton Rouge, LA 70804-9064. Contact: Dr. Thomas G. Clausen, (Superintendent) (504) 342-4411.

Environmental Action Packet.
Grades K-3, $3.10.
(teacher's guide focused on helping students learn about the food chain, garbage, recycling, global and environmental issues)
McDonald's Educational Resource Center, P.O. Box 8002, St. Charles, IL 60174-8002. (800) 627-7646.

Environmental Education - Compendium for Integrated Waste Management.
Grades K-12, Free.
(an easy-to-use guide to waste management education materials)
Schools Program CIWMB, 8800 CAL Center Drive, Sacramento, CA 95826. Contact: Schools Program Information (916) 255-2296.

Environmental Education Materials for Teachers and Young People.
Grades K-12, cost unlisted.
(annotated compendium of educational materials on environmental issues)
US Environmental Protection Agency, Office of Environmental Education, A-107, 401 M St. SW, Washington, DC 20460. Contact: Public Information Office (202) 260-2080.

The Fourth R: An Action Booklet for Recycling in the Classroom and School.
Grades K-12, $0.40.
(a how-to booklet on waste reduction and recycling; please bulk order)
Wisconsin Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707. Contact: Joel Stone (608) 266-2711.

Garbage in America.
Grades K-12, $27.00 per packet or $173.00 for K-12.
(curriculum comprised of nine individual packets, one for each grade; it covers the whole spectrum of solid waste, including the three R's)
Refuse Industry Productions, Inc., P.O. Box 1011, Grass Valley, CA 95945. Contact: Pat Berger (916) 274-3092.

Garbage Reincarnation.
Grades 4-8, $8.95.
(an interdisciplinary approach to materials, conservation and recycling)
Garbage Reincarnation, Inc., P.O. Box 1375, Santa Rosa, CA 95402. Contact: Linda Christopher (707) 584-8666.

Garbology.
Grades K-12, Free.
(set of student instructional materials containing reuse options for paper, plastic, metal and glass throw-away containers in the classroom, lab and field)
Florida Dept. of Education, Office of Environmental Education, Turlington Education Center, 325 W. Gaines St., Rm. 224-C, Tallahassee, FL 32399-0400. Contact: Robert Raze (Program Specialist) (904) 487-7900.

Green Box.
Grades K-8, $101.52.
(can be used as a file box of environmental education activities or the total curriculum package can be integrated into a long-term instructional program; it stresses science and social science through DO, THINK and SHOW cards)
Humboldt County Office of Education, Attn: Green Box, 901 Myrtle Ave., Eureka, CA 95501. Contact: Cheryl Ingham (707) 445-7078.

A Guide to Curriculum Planning in Environmental Education.
Grades K-12, $20.00 per book, $5.00 shipping and handling.
(a how-to guide for teachers planning on using environmental education topics with existing lesson plans)
For ordering information, call (800) 243-8782.

Hands on Nature.
Grades K-6, $18.95 plus postage.
(book of information and activities for exploring the environment with children)
Vermont Institute of Natural Science, P.O. Box 86, Woodstock, VT 05901. Contact: Bonnie Ross (802) 457-2779.

Hazardous Waste School Curriculums.
Grades K-2 & 6-8, Free.
(compendium of Missouri's, Seattle METRO's and Alaska's curriculums on hazardous waste)
State of Alaska, Dept. of Environmental Conservation, Pollution Prevention Office, 3601 C St., Ste. 1334, Anchorage, AK 99503. Contact: David Wigglesworth (907) 273-4303.

Here Today, Here Tomorrow Revisted.
Grades 4-8, Free.
(a teacher's guide to solid waste management)
New Jersey Dept. of Environmental Protection and Energy, Office of Communications CN-402, Trenton, NJ 08625-0402. Contact: Wendy Kaczerski (609) 777-4322.

Instructions for the Crew of Spaceship Earth.
Grades K-12, Free.
(student resource card on how to make conservation a way of life)
Florida Dept. of Education, Office of Environmental Education, Turlington Education Center, 325 W. Gaines St., Rm 224-C, Tallahassee, FL 32399-0400. Contact: Robert Raze (Program Specialist) (904) 487-7900.

Iowa Clean SWEEP (Solid Waste Environmental Education Project).
Grades K-12, $5.00.
(activities that focus on the four R's–refuse, reuse, recycle, rethink); lessons address the past and the future and discuss our primary "throw-aways")
Environmental Conservation Consultant, Dept. of Education, Grimes Bldg., Des Moines, IA 50319. Contact: Duane Tempsen (515) 281-3146.

Let's Recycle.
Grades K-12, Free.
(lesson plans for grades K-6 and 7-12 on recycling)
US Environmental Protection Agency, JFK Bldg., Boston, MA 02203. Contact: Marie Pirie (REA) (617) 565-9447.

Let's Recycle! Instructional Worksheets and Activities.
Grades 1-8, Free.
(basic recycling lessons in the form of individual worksheets and activities)
Office of Recycling, Dept. of Waste Management, Town of Brookhaven, 3233 Route 112, Medford, NY 11763. Contact: Pana Palermo (516) 451-6220.

List of Solid Waste Curricula.
Grades K-12, Free.
(reference list for classroom lessons on solid waste)
Environmental Action, 6930 Carroll Ave., Ste. 600, Takoma, MD 20912. (301) 891-1100.

Litter Prevention and Recycling.
Grades 7-12, $5.00.
(a science workbook that promotes student research on litter prevention and recycling with project ideas submitted by business industries and trade associations)
Ohio Academy of Science, 1500 W. 3rd Ave., Ste. 223, Columbus, OH 43212. Contact: Dorie Shaw (614) 488-2228.

Living Lightly in the City.
Grades K-3 & 4-6, $19.00 each plus $2.00 postage per volume.
(an environmental education guide consisting of two volumes, K-3 and 4-6)
Schlitz Audubon Center, 1111 E. Brown Deer Rd., Milwaukee, WI 53217 Contact: Robert Nichols (414) 351-4200.

Living Lightly on the Planet.
Grades 7-9 & 10-12, $19.00 each plus $2.00 postage per volume.
(an environmental education guide that consists of two volumes, 7-9 and 10-12)
Schlitz Audubon Center, 1111 E. Brown Deer Rd., Milwaukee, WI 53217 Contact: Robert Nichols (414) 351-4200.

Mobius Curriculum: Understanding the Waste Cycle.
Grades 4-6, $12.50.
(a curriculum that focuses on the three R's: reduce, reuse, recycle)
Browning-Ferris Industries, 333 Shoreway Rd., St. Carlos, CA 94070. Contact: Debi Sargent (415) 637-1411.

No Time to Waste.
Grades K-6, Free.
(a reproducible curriculum packet; limited to one copy each)
City of Mountain View, Solid Waste and Recycling Program, P.O. Box 7540, Mountain View, CA 94039. Contact: Diane Dryer (Recycling Coordinator) (415) 903-6227.

The No Waste Anthology - A Teacher's Guide to Environmental Activities K-12.
Grades K-12, cost unlisted.
(compilation of environmental activities for classroom lessons)
California Environmental Protection Agency, Dept. of Toxic Substances Control, Education and Information, 400 P St., 4th floor, P.O. Box 806, Sacramento, CA 95812-0806. Contact: Public Education Coordinator (916) 324-6543.

Operation Separation.
Grades K-6 (164 pp) & 7-12 (104 pp), $10.00 each.
(a curriculum that integrates materials on resource recovery from programs around the country)
Onondaga County Resource Recovery Agency, 100 Elwood David Rd., North Syracuse, NY 13212. Contact: Susan LaLond (315) 453-2866.

Oscar's Options.
Grades 4-8, $50.00 per volume.
(supplementary education curriculum presented in two volumes: Volume 1: natural resources, litter and hazardous household materials and Volume 2: solid waste issues including landfilling, incineration, recycling, compost, and source reduction; each unit includes background information, lesson plans, vocabulary, transparencies, supplementary brochures and magazines)
ERIC Clearinghouse for Science, Mathematics, and Environmental Education, Ohio State University, 1200 Chambers Rd., 3rd floor, Columbus, OH 43212. Contact: Stephanie Bwell (401) 277-3434.

Outdoor Classrooms.
Grades K-6, $3.00.
(lessons and activities for using the outdoors as a classroom)
Indiana Dept. of Education, Center for School Improvement and Performance, Office of School Assistance, Rm. 229, State House, Indianapolis, IN 46204-2798. Contact: Joe Wright (Environmental Science Consultant) (317) 232-9141.

Plastics Debris in Puget Sound.
Grades 4-6, $5.00.
(50 pages of marine science curriculum and activities; includes directions on how to make a floorboard game that teaches the hazards of and solutions to plastic marine debris)
Seattle Aquarium, Pier 59, Waterfront Park, Seattle, WA 98101. Contact: Sherry Williams (206) 386-4339.

Plastic in the Oceans: A Problem for Us All.
Grades 5-10, $5.00.
(learning activities aimed at educating youth about the problem of foreign debris in the oceans)
California Aquatic Science Education Consortium, Graduate School of Education, University of California, Santa Barbara, CA 93106. Contact: Jill Shinkle (805) 893-3102.

Project Learning Tree.
Grades K-12, cost unlisted.
(supplementary environmental education program related to understanding the interrelationship of humans to their environment)
Dept. of Forestry and Fire Protection, P.O. Box 944246, Sacramento, CA 94244-2460. Contact: Kay Antuney (916) 323-2498.

Rays: Recycle and You Save.
Grades K-6, $15.00 including postage.
(a curriculum on recycling for elementary grades)
County of San Diego, Dept. of Public Works, 5555 Overland Ave., San Diego, CA 92123-1295. Contact: Carol Gann (619) 974-2648.

Recycling Study Guide.
Grades K-3 ($0.40) and 4-12 ($0.50).
(an educational study guide with activities that introduce the importance of recycling; please bulk order)
Wisconsin Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707. Contact: Joel Stone (608) 266-2711.

Recycle Team.
Grades 3-4, $70.00-$90.00.
(a curriculum packet on recycling)
Southwest Regional Educational Laboratory World, 3914 Murphy Canyon Rd., Ste. A133, San Diego, CA 92123. (619) 573-1716.

Recycle This.
Grades 7-12, Free.
(curriculum materials and a video on recycling)
Customer Information Center, The Dow Chemical Company, P.O. Box 1206, Midland, MI 48641. Please send in your request and state how many students in class.

Recycle Today: Educational Materials for Grades K-12.
Grades K-12, Free.
(curriculum consists of classroom activities and hands-on recycling projects designed to raise environmental awareness)
US Environmental Protection Agency, 401 M St. SW, Washington, DC 20460. Contact: Public Information Office (202) 260-2080.

Recycling: Activities for the Classroom.
Grades K-6, $11.50.
(147 pages of different activities on recycling; Call #034E)
ERIC Clearinghouse for Science, Mathematics and Environmental Education, 1929 Kenny Rd., Columbus, OH 43210-1080. (614) 469-5181.

Recycling in the Environment.
Grades 4-12, 2 week loan.
(reproducible worksheet pages and lesson plans on recycling; color transparencies for overhead)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Rethinking Recycling - Teacher Resource Guide.
Grades K-12, $8.00.
(includes background information and a listing of other resources and materials)
Dept. of Environmental Quality, 811 SW 6th St, Portland, OR 97204-1390. Contact: Happi Hansen (503) 229-6709.

Ripples.
Grades 3-5, Free, plus $2.00 shipping and handling.
(an activity guide on water quality)
North Carolina Big Sweep, P.O. Box 550, Raleigh, NC 27602. Contact: Susan Bartholemew (919) 856-6686.

Save Our Seas.
Grades K-12, Free.
(anthology of activities on marine debris and non-point source pollution for the classroom; reqest information on the Training Network in your area)
California Coastal Commission/Adopt-a-Beach, 45 Fremont St., Ste. 2000, San Francisco, CA 94105-2219. (415) 904-5200.

Solid Waste: Is There a Solution? Problem Solving Activities for Middle Level Science.
Grades 6-9, $9.00.
(an activity guide divided into 6 units: Solid Waste: Defining the Problem, Waste Reduction, Reuse and Recycling, Landfills, Waste-to-Energy and Local Action)
New York Dept. of Environmental Education, New York Science, Technology and Society Education Project, 89 Washington Ave., Rm. 228, Albany, NY 12234 (Please make checks out to the "Research Foundation of SUNY.").
Contact: Bill Peruzzi (518) 486-1726.

Spanish Materials.
Grades 6-10, cost unlisted.
(Spanish lesson "Chansa Este en la Etiqueta," [Maybe It's On the Label], for Spanish speaking students; curricula aims to teach students to be aware of labels on the products they purchase)
Environmental Health Coalition, P.O. Box 85261, San Diego, CA 92186-5261. Contact: Pam Jackson (619) 338-2175.

Spokane County Recycling Education & Awareness Program.
Grades K-3 & 4-6, 2 week loan.
(classroom activities and two books; please specify grade level)
Snohomish County SWMD, Wall Street Bldg., 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Steel - America's Most Recycled Material.
Grades 5-8, Free.
(educational program designed to raise student awareness of the urgent need to recycle all renewable materials and of the benefits of using and conserving steel)
Steel Recycling Institute, 680 Andersen Dr., Pittsburgh, PA 15220. Contact: Mary Norton (Director of Public Relations) (412) 922-2772 or (800) 876-7274.

Tacoma Recycles and Saves Habitat Curriculum Guide.
Grades 3-5, 2 week loan.
(information and classroom activities on how habitats are affected by garbage and general disregard for the environment)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Teaching About Hazardous and Toxic Materials.
Grades K-12, $20.50.
(curriculum divided into four levels: K-3, 4-6, 7-9, and 10-12; focuses on hazardous materials and wastes)
ERIC Clearinghouse for Science, Mathematics and Environmental Education, Ohio State University, 1200 Chambers Rd., 3rd floor, Columbus, OH 43212. (614) 292-6717.

Teaching Toxics: Creating Solutions to Household Pollution.
Grades K-12, $25.00.
(comprehensive teachers' resource guide on household hazardous waste, providing interdisciplinary activities, background information and resource listings)
Association of Vermont Recyclers, P.O. Box 1244, Montpelier, VT 05601. (802) 229-1833.

Think Earth - Environmental Education Program.
Grades K-6, variety of costs as follows: $40.00, individual unit with video, $25.00 unit or video only, $120.00 school pack K-3 (one of each unit, plus a video) and $95.00 school pack grades 4-6 (one of each unit, plus a video).
(seven separate units [one for each grade]; intended to help students become more aware of the environment and develop a responsible, caring attitude about it)
Education Development Specialists, 5505 E. Carson St., Ste. 250, Lakewood, CA 90713-3093. Contact: Ann Crafton (310) 420-6814.

Toxics in My Home? You Bet!
Grades K-12, $40.00.
(curriculum regarding household chemicals; available in English and Spanish)
Golden Empire Health Planning Center. Contact: Local Government Commission, 909 12th St., Ste. 205, Sacramento, CA 95814. Cynthia DeWolff (916) 448-1198.

Trash for the Long Haul.
Grades K-12, $10.00.
(program includes nine case studies of various recycling efforts; each lesson includes an eight-step planning method)
Missouri Energy Resources Project,
7838 Big Bend Blvd., St. Louis, MO 63119.
(314) 962-7752.

Trash Today, Treasure Tomorrow.
Grades K-6, $12.50.
(kit contains model recycling teaching activities from which teachers can derive lesson plans)
Governor's Recycling Program, Office of State Planning, 2 1/2 Beacon St., Concord, NH 03301.
Contact: Denise Adjutant (603) 271-1098.

Traveling Resource Center.
Grades K-12, cost unlisted.
(two different creative, colorful kits, grades K-6 and 7-12, that teach about recycling and solid waste; each contains a set of illustrated information panels, books, videos, articles and other reference materials that will supplement the AVR Teachers' Resource Guide for Solid Waste and Recycling Education)
Association of Vermont Recyclers, P.O. Box 1244, Montpelier, VT 05601. (802) 229-1833.

Using Recyclables.
Grades 4-6, 2 week loan.
(individual, group and classroom activities demonstrating reuse of everyday throw-aways and recyclables in arts and crafts)
Snohomish County SWMD, Wall Street Bldg., 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Virginia Curriculum - Operation Waste Watch.
Grades 1-6, cost unlisted.
(curriculum packet on litter control and recycling)
Virginia Division of Litter Control,
1215 Washington Bldg., Richmond, VA 23219.
(804) 786-8679.

Visit the Triple R Ranch - Reduce, Reuse, Recycle.
Grades K-6, Free.
(teacher's activity book designed to be used with *Waste in Place* from Keep America Beautiful)
Texas Natural Resource Conservation Commission,
P.O. Box 13087, Austin, TX 78711.
Contact: Sue Bumpous (512) 908-1000.

Waste: A Hidden Resource.
Grades 7-12, $50.00 plus postage.
(curriculum provides an overview of solid waste and activities on handling waste)
Keep America Beautiful, 9 W. Broad St.,
Stamford, CT 06902. Contact: Becky Lyons
(203) 323-8987.

Waste Away: Information and Activities for Investigating Trash Problems and Solutions.
Grades 5-8, $21.95 including postage.
(curriculum consists of information and interdisciplinary activities used to investigate solid waste issues, causes and solutions)
Vermont Institute of Natural Science, P.O. Box 86, Woodstock, VT 05901. Contact: Bonnie Ross
(802) 457-2779.

Waste in Place.
Grades K-6, $40.00 plus postage.
(curriculum package is designed to introduce responsible waste handling practices to elementary students)
Keep America Beautiful, 9 W. Broad St.,
Stamford, CT 06902. Contact: Becky Lyons
(203) 323-8987.

Waste is a Terrible Thing to Waste.
Grades K-6, $35.00 plus tax.
(curriculum consists of classroom activities for elementary grades)
Exegetics, P.O. Box 191895, Sacramento,
CA 95819-1895. Contact: Gary Rominger
(916) 381-7795.

Waste Wise - Concepts in Waste Management.
Grades K-12, Free.
(resource guide for teachers using concepts of critical thinking and decision making; includes curriculum and activities for classrooms)
Aseptic Packaging Council, 1000 Potomac St. NW, Ste. 401, Washington, DC 20007. (800) 277-8088.

Watch Your Waste - Let's Talk Trash.
Grades K-12, Free.
(curriculum is designed to introduce students at all levels to the importance of waste management; there are five curriculums: K, 1-3, 4-6, 7-9, 10-12)
City of Albany, Dept. of Public Works,
1 Conners Blvd., Albany, NY 12204.
Contact: Kevin Byng (518) 432-1144.

Wecology.
Grades 6-10, $11.10 (includes the teacher's guide and a packet of 35 magazines).
(this magazine shows students how they can get involved in environmental solutions)
McDonald's Educational Resource Center,
P.O. Box 8002, St. Charles, IL 60174-8002.
(800) 627-7646.

What's It Made Of?
Grades 3-8, cost unlisted.
(curriculum kit that includes a storybook, ***Lots and Lots of Pippindotz,*** an audio tape, teacher guides, activity sheets, a poster, stickers, etc.; targets teaching children about recycling plastic)
Dow Chemical Company and Scholastic, Inc.
Contact: Partners for Environmental Progress, MLAB #4112, P.O. Box 1925,
Saginaw, MI 48605-9919. Contact: Tony Kingsbury (517) 636-7155 or (800) 553-4012.

Wrap Sessions: Town of Islip Recycling Curriculum.
Grades K-6, Free.
(curriculum designed to bring about an ecological consciousness in elementary school children; topics include interdependence, recycling and scarcity)
Town of Islip, Dept. of Environmental Control, 401 Main St., Islip, NY 11751. Contact: Mr. Daley (516) 224-5653.

EXTRAS

180 Million Tons of Trash: What Can We Do With It?
All ages, $2.75.
(a full-color poster depicting disposal options)
Keep America Beautiful, 9 W. Broad St., Stamford, CT 06902. Contact: Becky Lyons (203) 323-8987.

The ABC's About Beverage Containers.
Grades 4-7, Free.
(reprint from Ranger Rick's, *Nature Magazine*; publication reviews refillable vs. throwaway controversy)
National Wildlife Federation, 1400 16th St. NW, Washington, DC 20036. (800) 432-6564.

Access EPA.
Grades K-adult, $21.00.
(a book of nine directories of environmental references, i.e., listing of libraries, organizations and offices that supply environmental information to the general public)
US EPA, Government Printing Office (GPO), Washington, DC 20402. Contact: Public Information Office (202) 260-2080.

Coloring Posters.
Grades preschool-1, Free.
(coloring posters with a steel theme, with basic question/answer section on steel recycling on the back [appropriate for young children with the guidance of a teacher or parent])
Steel Recycling Institute, 680 Andersen Drive, Pittsburgh, PA 15220. Contact: Mary Norton (Director of Public Relations) (412) 922-2772 or (800) 876-7274.

Computer Disc.
Grades K-3, $5.00.
(Macintosh touch screen interactive computer game that educates students through a toxic tour of a home; must have a hypercard with Macintosh or Apple computer)
Environmental Health Coalition, P.O. Box 85261, San Diego, CA 92186-5261. Contact: Pam Jackson (619) 338-2175.

Eco-News.
Grades 4-8, $0.50 per copy, plus 25¢ for postage.
(an informative, cartoon-illustrated newsletter about the environment)
Environmental Action Coalition, 625 Broadway, 2nd floor, New York, NY 10012. Contact: Stephen Richardson (212) 677-1601.

Ecosystems.
Grades K-12, Macintosh $99.00 and Apple $75.00.
(computer software that introduces children to the elements of the relationships within ecosystems; emphasis on food chains and webs)
Sunburst Communications, 101 Castleton St., Pleasantville, NY 10570. Contact: Sean Brown (800) 321-7511.

Environmental Book Mark.
All ages, $6.15 (pack of 100).
McDonald's Educational Resource Center, P.O. Box 8002, St. Charles, IL 60174. (800) 627-7646.

Five audio tapes.
Grades preschool-6, $11.00 each, songbooks are $4.00 extra (there is no songbook available for "Singing in Our Garden").
(five different audio tapes ["Slugs at Sea", "Dirt Made My Lunch", "Singing in Our Garden with the Life Lab curriculum", "Adventure on the Air Cycle" and "Songs for the Earth"] with optional songbooks)
The Banana Slug String Band, P.O. Box 2262, Santa Cruz, CA 95063. (408) 476-5776.

Garbage - Understanding Words in Context; Opposing Juniors Viewpoints.
Grades 5-8, 2 week loan.
(articles presenting two sides to solid waste issues and word definition exercise; some entertaining cartoons also included)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

Home Hazardous Product Survey.
Grades 4-adult, $0.75 plus $1.00 shipping and handling.
(survey of the household to take a closer look at hazardous wastes in the home; formatted for teachers)
Household Hazardous Waste Project, 1031 E. Battlefield, Ste. 214, Springfield, MO 65807. Contact: Sarah Dewey (417) 889-5000.

Lessons on Recycling and Using Plastics in the 90's.
Grades 1-6, Free.
(reprint from *Scholastic* magazine; limit 1 per school)
American Plastics Council, 1275 K St. NW, Ste. 500, Washington, DC 20005. (800) 2-HELP-90.

Manual for the Household Hazardous Materials Audit.
All ages, $3.00.
(a self-audit to mark toxic products in the home)
Alaska Center for the Environment, 700 H St., Ste. 4, Anchorage, AK 99501. (907) 274-3621.

Plastics Recycling by the Numbers.
Grades 3-4, $0.50 each.
(material covers plastics' uses, the Plastic Container Coding System and how to separate plastics for recycling)
Keep America Beautiful, 9 W. Broad St., Stamford, CT 06902. Contact: Becky Lyons (203) 323-8987.

Pollution Pointers for Elementary Students.
Grades K-6, first copy free, additional copies $0.20.
(Twenty-four things children can do to help stop pollution)
Keep America Beautiful, 9 W. Broad St., Stamford, CT 06902. Contact: Becky Lyons (203) 323-8987.

Recycled Treasures Crafts Kit.
Grades preschool-Adult, $16.00 plus $3.50 per kit for shipping and handling (plus 8.5% sales tax for California deliveries).
(kit contains unused materials such as paper, wood, plastic, rubber, wire and fabric recycled from business and individuals for creative reuse; includes educational project booklet)
Recycled Treasures, P.O. Box 591059, San Francisco, CA 94159-1059.
Contact: Karen Powell (415) 922-8759.

Recycling for the Birds.
Grades 4-7, Free.
(reprint from Ranger Rick's, *Nature Magazine;* article describes how to turn throwaways into new items such as empty plastic bleach bottles into bird feeders)
National Wildlife Federation, 1400 16th St. NW, Washington, DC 20036. (800) 432-6564.

Ride the Wave of the Future: Recycle Today.
Grades K-12, Free.
(a colorful poster that promotes recycling)
US Environmental Protection Agency, 401 M St. SW, Washington, DC 20460. Contact: Public Information Office (202) 260-2080.

Trash Goes to School.
Grades K-12, $35.00.
(a set of seven IBM compatible computer discs on solid waste activities covering waste reduction, recycling, composting, incineration, landfilling and the environment)
Cornell University Resource Center, 7-8 Business & Technology Park, Ithaca, NY 14850. (607) 255-2091.

What Your Home Haz: A Household Hazardous Waste Game.
Grades 4-adult, $0.75 plus $1.00 shipping and handling.
(an activity similar to a jeopardy game that teaches about household hazardous wastes)
Household Hazardous Waste Project, 1031 E. Battlefield, Ste. 214, Springfield, MO 65807.
Contact: Sarah Dewey (417) 889-5000.

MAGAZINES

Biocycle
(monthly).
(a technical journal on recycling, composting and waste resource management)
JG Press Inc., 419 State Ave., 2nd floor, Emmaus, PA 18049. (215) 967-4135.

E Magazine - The Environmental Magazine
(bimonthly).
(this magazine discusses various environmental issues)
Earth Action Network Inc., P.O. Box 5098, Westport, CT 06881. Contact: Circulation Manager (203) 854-5559.

Environmental Action
(bimonthly).
(a general environmental magazine that discusses topics such as environmental injustice, grassroots activism, legislative updates, etc.)
Environmental Action, 6930 Carroll Ave., Ste. 600, Takoma, MD 20912. (301) 891-1100.

EPA Journal
(bimonthly).
(an environmental journal produced by the US Environmental Protection Agency that includes a wide variety of issues)
Superintendent of Documents, GPO, P.O. Box 371954, Pittsburgh, PA 15250-7954. Contact: New Orders (202) 783-3238.

Garbage
(bimonthly).
(journal that discusses waste management issues)
Dovetale Publishers, 2 Main St., Gloucter, MA 01930. Contact: Nancy Virgilio (508) 283-3200.

Modern Plastics
(monthly).
(magazine on plastics-related issues)
Modern Plastics, P.O. Box 601, Heightstown, NJ 08520. Contact: Customer Service (609) 426-7070.

Ranger Rick
Grades K-6.
(nature magazine for elementary grades)
National Wildlife Federation, 1400 16th St. NW, Washington, DC 20036. (800) 432-6564.

Recycling Today
(monthly).
(magazine on a variety of topics dealing with recycling)
Recycling Today, 4012 Bridge Ave., Cleveland, OH 44113-3320. Contact: Mr. John Bruning (216) 961-4130 or (800) 456-0707.

Resource Recycling
(monthly).
(a magazine that discusses a variety of topics within the recycling realm; topics include industrial recycling, plastics, solid waste management, etc.)
Resource Recycling, P.O. Box 10540, Portland, OR 97210. (503) 227-1319.

Scrap - Processing & Recycling
(bimonthly).
(magazine discusses a selection of topics on scrap materials including industry, safety, commodities, equipment, etc.)
Scrap - Processing & Recycling, 1325 G St. NW, Ste. 1000, Washington, DC 20005-3104. Contact: Jackie Tyler (202) 466-4050.

Solid Waste & Power
(7 times per year).
(publication covers issues within the solid waste management realm, i.e., waste energy and landfill gas)
HCI Publications, 410 Archibald St., Kansas City, MO 64111-3046. (816) 931-1311.

Waste Age
(monthly).
(publication discusses issues on solid waste including landfills, recycling, waste-to-energy, source reduction, collection methods and composting; also has business updates and special feature sections)
Waste Age, 1730 Rhode Island Ave. NW, Ste. 1000, Washington, DC 20036. Contact: John Aquino (202) 861-0708.

World Wastes
(monthly).
(the oldest magazine in the garbage business, discusses waste issues that deal with collection, transportation, and processing disposal industries)
World Wastes, 6151 Powers Ferry Rd., Atlanta, GA 30339. Contact: Bill Wolpin (404) 955-2500.

Your Big Backyard
Preschool
(nature magazine for very young children)
National Wildlife Federation, 1400 16th St. NW, Washington, DC 20036. (800) 432-6564.

RECYCLING PROGRAMS

Adopt-a-Beach.
Grades K-12, cost unlisted.
(program in which classes can adopt a section of the beach to clean and take care of; children receive a certificate of recognition at the close of the program)
CA Coastal Commission/Adopt-a-Beach,
45 Fremont St., Ste. 2000,
San Francisco, CA 94105-2219. (415) 904-5200.

Guidelines for the Collection of Recyclable Materials and Reduction of Solid Waste in the State System of Education/Schools and School Districts; Community Colleges and Universities.
All ages, Free.
(a program for in-school recycling, Florida's *Guidelines* provides background information on state recycling programs, elements in planning and implementing a recycling program and source reduction recycling options for educational facilities)
Florida Dept. of Education, Office of Environmental Education, Turlington Education Center, 325 W. Gaines St., Rm. 224-C, Tallahassee, FL 32399-0400. Contact: Robert Raze (Program Specialist) (904) 487-7900.

How to Set Up a School Recycling Program.
Grades K-12, Free.
(a step-by-step plan for setting up a school recycling program; limit 1 per school)
American Plastics Council, 1275 K St. NW, Ste. 500, Washington, DC 20005. (800) 2-HELP-90.

The Oregon Schools Formula for Success in Waste Reduction.
Grades K-12, $5.00.
(handbook on how to set up waste reduction programs in schools)
Dept. of Environmental Quality, 811 SW 6th St., Portland, OR 97204-1390. Contact: Happi Hansen (503) 229-6709.

Recycle-a-Thon.
Grades K-12, cost unlisted.
(school fundraising program through which recycling "competition" is conducted)
CA Coastal Commission/Adopt-a-Beach,
45 Fremont St., Ste. 2000,
San Francisco, CA 94105-2219 (415) 904-5200.

School Recycling Programs: A Handbook for Educators.
Grades K-12, Free.
(curriculum that describes school recycling program options and provides step-by-step instructions on how to set up a program)
US Environmental Protection Agency, 401 M St. SW, Washington, DC 20460. Contact: Public Information Office (202) 260-2080.

Worms Eat My Garbage.
Grades 7-adult, 2 week loan.
(directions on how to set up and maintain a worm composting system)
Snohomish County SWMD, Wall Street Bldg., Ste. 101, 2930 Wetmore Ave., Everett, WA 98201. Contact: Janet Tracy (206) 388-6485 or (800) 562-4367.

VIDEOS

Some of the following videos are available for review on a loan basis by contacting:

Margo Wildman
Department of Conservation,
Division of Recycling — Resource Center,
801 K Street, Sacramento, CA 95814,
(916) 445-1490/1-800-RECYCLE (in CA only)
These videos are noted by the abbreviation for the Department of Conservation (DOC) following the price listing. Others may be acquired by contacting the source listed.

A Kid's Eye View of Ecology.
Grades 2-9, $59.95, or rental for $35.00. (DOC). 28 minutes.
(features children's entertainer, Michael Mish and three children who present a lively overview of major environmental issues; gives practical suggestions for helping the environment and encourages young people to be an active part of the solution)
Distributed by The Video Project,
5332 College Ave., Ste. 101, Oakland, CA 94618.
(510) 655-9050 or (800) 475-2638.

A Tisket, A Tasket, Recycling is Fantastic!
Grades K-3, $24.95. (DOC). 12 minutes.
(reviews the basic concepts of recycling)
Ross Campbell - Campbell Inc., 1707 18th St.,
Sacramento, CA 95814. (916) 446-4744.

Aluminum Recycling: Your Next Assignment.
Grades 4-8, $10.00. (DOC). 18 minutes.
(describes the aluminum recycling process and the benefits of recycling)
Aluminum Association Inc., 900 19th St. NW,
Washington, DC 20006. (202) 862-5100.

California Nonprofits Cash In.
Grades 4-12, $15.00. (DOC). 14 minutes.
(discusses four ways nonprofit organizations can earn money through recycling)
Distributed by Double Vision, The Media Center,
401 S St., Ste. 100, Sacramento, CA 95814.
(916) 928-1060.

Cleaning Up Toxics: A Two-Part How-To Series.
Grades 9-12, $99.95, or rental for $70.00. (DOC). 25 minutes.
(a two-part series that provides practical guidance for reducing the health threats posed by common hazardous chemicals)
Distributed by The Video Project,
5332 College Ave., Ste. 101, Oakland, CA 94618.
(510) 655-9050 or (800) 475-2638.

Closing The Loop.
Grades 9-12, available by sending $15.00, a blank tape, and a statement that says the tape will not be used for political or commercial purposes. 27 minutes.
(a look at how Florida companies are using recycled materials to make new products)
Florida Public TV, P.O. Box 20066,
Tallahassee, 32316. (904) 224-3784.

Contra Costa County Model School Recycling Program.
Grades K-5, $20.00. (DOC). 10 minutes.
(reviews the importance of recycling at schools by showing the basic steps of how to set up recycling programs within schools)
Contra Costa County Development Dept., 651 Pine St., 4th floor, North Wing, Martinez, CA 94553.
(800) 750-4096.

Convenience Recycled.
Grades 7-12, Free. 13 minutes.
(discusses polystyrene and the solid waste stream; focuses on recycling polystyrene)
Polystyrene Packaging Council Inc.,
1025 Connecticut Ave. NW, Ste. 515, Washington, DC 20036. (202) 822-6424.

Deterioration Of Water.
Grades 7-Adult, $295.00, or rental for $75.00 (free previews are available for purchase consideration). 20 minutes.
(illustrates the sources and hazards of water pollution as well as prevention methods)
Distributed by Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Do The Right Thing - Recycle and Recycling Riddles.
Grades 6-12, (DOC). Running time unknown.
(first video focuses on recycling polystyrene in Lexington schools and serves as a model for other schools; second video discusses the benefits of recycling plastic and how Lexington students recycle polystyrene food trays)
National Polystyrene Recycling Company,
25 Tri-State International, Lincolnshire, IL 60069.
(708) 945-1991.

Do You Know Where Your Garbage Is?
Grades 5-12, $49.00, or rental for $18.00. (DOC). 12 minutes.
(discusses waste disposal options; shows the need to "divide and conquer," managing different portions of the wastestream in ways that protect the environment)
Cornell University Resource Center,
7-8 Business & Technology Park, Ithaca, NY 14850.
(607) 255-2091.

Down In The Dumps.
Grades 7-Adult, $250.00, or rental for $75.00 (free previews are available for purchase consideration). 20 minutes.
(examines recycling efforts around the world and illuminates problems that still must be overcome to ensure that we will not be overwhelmed by our own waste)
Distributed by Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe. (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

E Is For Ecology.
Grades 1-6, $210.00, or rental for $75.00 (free previews are available for purchase consideration). This video is also available in Spanish. 11 minutes.
(introduces young viewers to the concept of ecological cycles and explains the water, air, food and life cycles; animation shows the operation of these cycles and how they are all connected)
Distributed by Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Earth Week: Seven Days to a Greener Planet.
Grades 1-6, $250.00, or rental for $75.00 (free previews are available for purchase consideration). 11 minutes.
(shows that even young people can understand the interrelationships between plants, animals, air, water and land, as well as work to solve old environmental problems and prevent new ones)
Distributed by Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

The Energy Savers.
Grades 1-8, $155.00, or rental for $75.00 (free previews are available for purchase consideration). 9 minutes.
(Donald, Mickey and Goofy team up to teach simple and effective ways to save energy and money every day; students learn what energy is, why it is so important to conserve it and what they can do to help)
Distributed by Coronet/MTI Film & Videos,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Foodservice Disposables: Should I Feel Guilty?
Grades 7-12, Free. (DOC). 12 minutes.
...ely search for answers to the growing controversy over reusable versus disposables — the environmental trade-offs and the conservation of natural resources; examines such issues as litter, family health and the protection of the atmosphere's ozone layer)
Foodservice & Packaging Institute Inc.,
1901 N. Moore St., Ste. 1111, Arlington, VA 22209.
(703) 527-7505.

Garbage in America - The Choice is Ours.
Grades 4-Adult, $39.95. (DOC). 20 minutes.
(a comprehensive, easy to undertand overview of America's solid waste problem and how the public can help deal with it; emphasis on recycling)
Refuse Industry Productions Inc., P.O. Box 1011,
Grass Valley, CA 95945. (916) 274-3092.

Go.
Grades K-4, $60.00, or rental for $20.00. 10 minutes.
(introductory film about how we rely on energy to make things go, where we get energy from, why we must conserve it and how children can help)
Bullfrog Films, P.O. Box 149, Oley, PA 19547.
(800) 543-FROG.

Going Green.
Grades 5-Adult, $175.00, or rental for $40.00. 22 minutes.
(the Tomachich family discusses ways to reduce the impact of your household wastes on the environment)
Bullfrog Films, P.O. Box 149, Oley, PA 19547.
(800) 543-FROG.

The Greenhouse Effect.
Grades 7-12, $250.00, or for rental at $75.00 (free previews are available for purchase consideration). 20 minutes.
(examines the world's changing climate, recognizes the impact of the greenhouse effect and looks at what steps are being taken to counter global warming)
Distributed by Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Greenbucks: The Challenge of Sustainable Development.
Grades 9-Adult, $195.00, or rental for $75.00. (DOC). 55 minutes.
(designed to inspire businesses and business schools to consider fundamental changes in their attitudes towards the environment and economics; looks at the first positive steps major corporations on five continents are taking to change their ways)
Distributed by The Video Project, 5332 College Ave., Ste. 101, Oakland, CA 94618. (510) 655-9050 or (800) 475-2638.

Hazardous Waste - Priority One.
Grades 4-Adult, $59.95. 20 minutes.
(an in depth-study of the household and commercial hazardous wastes in our wastestream, plus what measures must be taken to combat them)
Refuse Industry Productions Inc., P.O. Box 1011, Grass Valley, CA 95945. (916) 274-3092.

Help Save Planet Earth.
Grades K-12, $14.98. (DOC). 71 minutes.
(join Ted Danson and a cast of concerned celebrities to help clean up our world; video discusses toxics, saving energy and money, protecting the ozone layer, conserving and purifying water and other natural resources and protecting endangered species)
Distributed by MCA Universal, 100 Universal City Plaza, Universal City, CA 91608. (818) 777-1000.

Hot Potato.
Grades 4-Adult, $175.00, or rental for $75.00. 11 minutes.
(focuses on treatment of the waste management dilemma; explores concepts of waste generation, shared responsibility, incineration, land disposal, etc.)
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

Into Deep Water.
Grades 7-Adult, $250.00, or rental for $50.00. 26 minutes.
(looks at why clean drinking water is becoming a scarce commodity)
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

Landfills - Options and Solutions.
Grades 4-Adult, $74.95. 26 minutes.
(investigates landfills, other options such as incineration, and addresses the fears behind the NIMBY [Not In My Backyard] syndrome)
Refuse Industry Productions Inc., P.O. Box 1011, Grass Valley, CA 95945. (916) 274-3092.

Less is More: Pollution Prevention is Good Business.
Grades 9-12, $98.00 plus $4.00 shipping. (DOC). 22 minutes.
(reviews efforts being made to stop pollution before it starts; looks at EPA standards and industry efforts for waste reduction)
Government Institutes Inc., 966 Hungerford Dr., #24, Rockville, MD 20850-1714. (301) 921-2300.
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

Let's All Recycle.
Grades K-6, $160.00 plus $8.95 shipping. This video is also available in Spanish (¡Recirculermos!). 8 minutes.
(introduces children to the concepts of refuse disposal, recycling and the preservation of the environment)
AIMS Media, 9710 DeSoto Ave., Chatsworth, CA 91311-4409. (818) 773-4300.

Life After the Curb. Recycling Processes.
Grades 2-12, $43.00, or rental for $18.00. (DOC). 20 minutes.
(animated grape juice can, "Grapey," visits metal, glass, plastic and paper recycling plants; discusses waste prevention, reduction, reuse, recycling and the need to buy durable and recycled products)
Cornell University Resource Center, 7-8 Business & Technology Park, Ithaca, NY 14850. (607) 255-2091.

Making A Difference: Restoring the Earth Around Us.
Grades 7-Adult, $195.00, or rental for $45.00. 28 minutes.
(shows how ordinary people can contribute to the restoration of our environment)
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

Mister Rogers' Recycling Video.
Grades preschool-3, $19.95. 30 minutes.
(the PBS series, "Mr. Rogers' Neighborhood," teaches recycling)
Keep America Beautiful, 9 W. Broad St., Stamford, CT 06902. Contact: Becky Lyons (203) 323-8987.

Name Your Adventure.
Grade 4-12, $24.95 plus shipping. 30 minutes.
(presented in three segments: tap dancing with Gregory Hines, recycling plastic and glass and cattle driving)
Big Daddy Productions Inc., 330 Bob Hope Dr., Rm. C-117, Burbank, CA 91523. (818) 840-7660.

The Next Frontier in Curbside Recycling.
Grades 9-12, (DOC). 10 minutes.
(discusses curbside recycling of plastic bottles as well as other recyclable containers)
Plastic Recycling Corporation of California, 3345 Wilshire Blvd., Ste. 1105, Los Angeles, CA 90010. (213) 487-1544.

One More Time.
Grades 7-12, $39.95 plus $5.00 shipping. (DOC). 23 minutes.
(gives an informal review of Marin County's recycling program)
California Video Production, P.O. Box 1123, Sausalito, CA 94966. (415) 332-5300.

One Second Before Sunrise, Program 1.
Grades 7-Adult, $175.00, or rental for $85.00. 60 minutes.
(focuses on solutions to environmental problems; covers five earth-friendly projects around the world that all aim to solve different environmental problems)
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

One Second Before Sunrise, Program 2.
Grades 7-Adult, $175.00, or rental for $85.00. 60 minutes.
(two segments cover several major environmental issues; "Cooperating For Clean Air" tackles acid rain and the closely related threat of global climate change, and "Spiders Help Farmers Grow Safer Crops" deals with the excessive use of pesticides)
Bullfrog Films, P.O. Box 149, Oley, PA 19547. (800) 543-FROG.

Our Fragile Earth.
Grades 7-Adult, $65.00, or rental for $30.00. (DOC). 38 minutes total.
(two-part series, "Recycling" and "Energy Efficiency and Renewables", emphasizing student involvement and the connection between their lives and the environment)
Distributed by The Video Project, 5332 College Ave., Ste. 101, Oakland, CA 94618. (510) 655-9050 or (800) 475-2638.

Our Future World.
Grades 7-12, $250.00, or rental for $75.00 (free previews are available for purchase consideration). 20 minutes.
(illustrates our ecological and pollution-related predicaments; urges viewers to become part of the solution instead of part of the problem)
Distributed by Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools contact need to Bob Cole (800) 777-8100 ext. 2450.

Plastic It's Fantastic.
Grades 6-12, available on loan from the Pacific West Communication Group. (DOC). 6 minutes.
(the Plastic Recycling Corporation of California illustrates the process of plastic recycling)
New Video Teleproductions, Pacific West Communication Group, 6301 Sunset Blvd., Hollywood, CA 90028. (213) 487-0830.

Pointless Pollution: America's Water Crisis.
Grades 7-Adult, $250.00, or rental for $50.00. 28 minutes.
(discusses nonpoint source pollution — encompasses all run-off pollution that does not come from a single source like the discharge pipe from a chemical company or sewage treatment plant)
Bullfrog Films, P.O. Box 149 Oley, PA 19547. (800) 543-FROG.

Polystyrene Foam and the Environment September 1990.
Grades 9-Adult, Free for teachers, $10.00 for the general public. (DOC). 14 minutes.
(examines the process of recycling polystyrene; includes the chemical makeup and breakdown of polystyrene products)
The Council for Solid Waste Solutions, 1275 K St. NW, Ste. 500, Washington, DC 20005. (202) 371-5319.

Polystyrene Recycling and You.
Grades 4-12, $7.50 each plus 10% for shipping. (DOC). 5 minutes.
(aims to educate polystyrene users in food services about the importance and effect of source separation on the entire recycling process; NPRC's ability to recycle protective foam packaging is briefly mentioned)
National Polystyrene Recycling Company,
25 Tri-State International, Lincolnshire, IL 60069.
(708) 945-1991.

The Pyrolysis Story.
No grade specified, available on loan from Conrad Industries Inc. (DOC). 7 minutes.
(discusses the process of the decomposition of materials exposed to extreme temperatures [pyrolysis] and the benefits of this process)
Conrad Industries Inc., 606 Reynolds Ave.,
Centralia, WA 98531. (206) 736-0141.

Recycling is Fun!
Grades K-4, $195.00, or rental for $25.00. 12 minutes.
(involves three young children who explore the three R's of recycling - reduce, reuse and recycle; they visit a landfill, a recycling center, and their local supermarket to find out what they can do to help with the solid waste crisis)
Bullfrog Films, P.O. Box 149, Oley, PA 19547.
(800) 543-FROG.

Recycle Me!
Grades K-6, $95.00. (DOC). 13 minutes.
(animated; an aluminum can, a glass jar, a newspaper and a plastic bottle all plead to be recycled rather than discarded)
Handel Film Corporation, 8730 Sunset Blvd.,
Los Angeles, CA 90069. (310) 657-8990.

Recycle Rex.
Grades K-6, $250.00 plus $6.00 shipping (free previews are available for purchase consideration). The video is also available in Spanish. (DOC). 11 minutes.
(animated video program about a group of dinosaur friends who learn about recycling firsthand when their playing field is in jeopardy of being turned into a landfill)
Disney Educational Productions, Distributed by
Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe
(800) 777-2400 ext. 2403; schools need to contact
Bob Cole (800) 777-8100 ext. 2450.

Reduce, Reuse, Recycle: It's Elementary.
Grades 3-8, available on loan from the Illinois Dept. of Energy and Natural Resources. (DOC). 18 minutes.
(recycling programs unique to Illinois schools)
Illinois Dept. of Energy and Natural Resources,
325 W. Adams, Rm. 300, Springfield, IL 62704.
(217) 785-2800.

Replanting the Tree of Life.
Grades 7-Adult, $250.00, or rental for $40.00. 28 minutes.
(reminds viewers of the essential role trees play in our lives and in the life of the planet; reminds viewers not to waste this precious resource)
Bullfrog Films, P.O. Box 149, Oley, PA 19547.
(800) 543-FROG.

The Resource Revolution.
Grades 7-12, Free for teachers, $10.00 for the general public. 12 minutes.
(shows students the progress made in recycling plastics and the role recycling plays in dealing with our nation's garbage crisis)
Council for Solid Waste Solutions, 1275 K St. NW,
Washington, DC 20005. (202) 371-5319.

Return to Sender: A Story About Littering.
Grades 1-6, $280.00, or rental for $75.00 (free previews are available for purchase consideration). 13 minutes.
(dramatization of idea that each of us can make a difference; teaches viewers anti-littering behavior that they can begin practicing in their daily lives)
Distributed by Coronet/MTI Film & Video,
P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe
(800) 777-2400 ext. 2403; schools need to contact
Bob Cole (800) 777-8100 ext. 2450.

Rivers to the Sea.
Grades 7-Adult, $285.00, or rental for $75.00 (available in two parts for schools). 46 minutes.
(explores the abundant life in Atlantic coast rivers; it makes a powerful plea for the care and management of our rivers and shows us how much we have to lose)
Bullfrog Films, P.O. Box 149, Oley, PA 19547.
(800) 543-FROG.

The Rotten Truth.
Grades 4-8, $19.95 plus 6% shipping. (DOC). 30 minutes.
(takes viewers on an adventure with Stephanie Yu [a cast member from "3-2-1 Contact"] as well as surprise guests like "The Rappin' Wrapper", to learn the "rotten truth" about garbage)
Children's Television Workshop, 3-2-1 Contact,
Wings for Learning, 1600 Green Hills Rd.,
P.O. Box 660002, Scotts Valley, CA 95067-0002.
(800) 321-7511.

Save the Earth: A How-To Video.
Grades 9-Adult, $19.95. 60 minutes.
(takes a look at everyday things individuals can do to help restore the environment)
Distributed by The Video Project,
5332 College Ave., Ste. 101, Oakland, CA 94618.
(510) 655-9050 or (800) 475-2638.

Steel Cans and Curbside Recycling.
Grades 6-12, available on loan from the Steel Recycling Institute. (DOC). 20 minutes.
(discusses the steel making process and recyclability of steel packaging in detail)
Steel Recycling Institute, 680 Anderson Dr., Pittsburgh, PA 15220. (800) 876-7274.

Think Earth.
Grades K-3, $25.00. (DOC). 7 minutes.
(animated video that accompanies the kindergarten-3rd grade unit of the "Think Earth Environmental Education Program;" "Think Earth" introduces children to the environment and the need for all of us to conserve natural resources, reduce waste and minimize pollution)
Educational Development Specialists, 5505 E. Carson St., Ste. 250, Lakewood, CA 90713. (310) 420-6814.

Timber.
Grades 7-12, $250.00, or rental for $75.00 (free previews are available for purchase consideration). 20 minutes.
(makes a strong case for preserving the world's forests; the ecological, medical and recreational consequences of deforestation and solutions to alleviate forest stress)
Distributed by Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Tinka's Planet.
Grades 1-6, $55.00, or rental for $30.00. 12 minutes.
(focuses on the need for recycling; designed for elementary-aged children)
Distributed by The Video Project, 5332 College Ave., Ste. 101, Oakland, CA 94618. (510) 655-9050 or (800) 475-2638.

The Today Show: Recycling.
Grades 7-Adult, (DOC). 11 minutes.
(Jane Pauley's segment of "The Today Show" examines the advantages and disadvantages of recycling)
Tracy-Locke Inc., 12100 Wilshire Blvd., Ste. 1800, Los Angeles, CA 90025. (310) 207-1002.

We Can Make a Difference.
Grades 5-12, $55.00, or rental for $30.00. 16 minutes.
(shows how 12 high school students inspire other young people to save the planet; the students ask questions about pollution, global warming, ozone destruction and their ability to make a difference)
Distributed by The Video Project, 5332 College Ave., Ste. 101, Oakland, CA 94618. (510) 655-9050 or (800) 475-2638.

Why We Conserve Energy: The Witch of the Great Black Pool.
Grades 1-6, $99.00, or rental for $75.00. 12 minutes.
(an animated film that stresses the importance of conserving our natural resources)
Distributed by Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Working Together for a Healthier Planet.
Grades 6-10, $10.00. (DOC). 15 minutes.
(explores the sources of the problem of an unhealthy planet, examines some of our preconceptions about solid waste [particularly plastics] and looks for ways to help preserve our fragile environment)
American Plastics Council, 1275 K St. NW, Ste. 500, Washington, DC 20005. (800) 2-HELP-90.

Yakety Yak - Take It Back.
Grades 4-12, (DOC). 45 minutes.
(music video features well-known musicians singing their own versions of "Yakety Yak, Don't Talk Back," with a recycling theme)
Vision Entertainment, 75 Rockefeller Plaza, New York, NY 10019. (212) 275-2900.

Yes I Can!
Grades K-4, (DOC). 16 minutes.
(presents simple ideas to get children into the habit of recycling)
Long Beach Main Library, Attn: Film Department, 101 Pacific Ave., Long Beach, CA 90802. (310) 590-6181.

Youth Recycling Project.
Grades K-12, (DOC). 12 minutes.
(reviews the basics of recycling and explains what materials are accepted under the California Redemption Value (CRV) program and how to sort these materials; also covers what takes place after materials have been collected [emphasis on glass processing])
KB Video Productions, Professional Videotaping, P.O. Box 2081, Orangevale, CA 95662. (916) 988-9832.

Zort Sorts: A Story About Recycling. *Grades 3-6, $280.00 (free previews are available for purchase consideration). 15 minutes.*
(an alien comes to earth to learn about recycling)
Distributed by Coronet/MTI Film & Video, P.O. Box 2649, Columbus, OH 43216.
Government agencies need to contact Jan McCabe (800) 777-2400 ext. 2403; schools need to contact Bob Cole (800) 777-8100 ext. 2450.

Environmental Organizations

AIR & WASTE MANAGEMENT ASSOCIATION
P.O. Box 2861
Pittsburgh, PA 15230
(412) 232-3444 FAX: (412) 232-3450

The Air & Waste Management Association (A & WMA) is a nonprofit, technical, educational and international organization for environmental professionals that supports environmental education at all levels. Founded in 1907, the Association provides a neutral forum for the discussion of technical, scientific, social, economic, political and health-related issues involving the environment. The following educational materials are currently available: (each has been reviewed by an A & WMA committee to ensure technical accuracy of the information being presented).

1. ***Environmental Resource Guides (ERGs)*** - Each ERG contains approximately 15 "teacher-friendly" lessons and hands-on activities, a glossary and a series of fact sheets on related environmental topics. The ERGs are currently available in two volumes:

   - ***Air Quality*** - Explores acid rain, depletion of the ozone layer, indoor air pollutants, particulate matter, etc.; currently available for grades 6-8 in English, Spanish and French.

   - ***Nonpoint Source Pollution Prevention*** - Includes environmental effects of runoff from agriculture, mining, forestry and urban sources of water pollution; available in individual units for grades K-2, 3-5, 6-8 (including a Spanish edition) and 9-12.

2. ***Information Books*** - A & WMA produces a series of information books to supplement the ERGs. Each book contains general information about specific environmental topics, including air pollution and pollution prevention. These information books are written on a junior or senior high school level. The information books can also be used as reference materials for the general public.

3. ***Fact Sheets*** - A & WMA produces a series of one-page fact sheets on a variety of environmental topics including ozone, recycling, municipal waste, indoor air pollutants, alternative fuels, acid rain, hazardous waste, hazardous waste management in the U.S., oil spills and the Clean Air Act. The fact sheets provide an overview of the topics and serve as additional reference materials for educators or the general public.

ALLIANCE FOR ENVIRONMENTAL EDUCATION
51 Main Street
P.O. Box 368
The Plains, VA 22171
(703) 253-5812 FAX: (703) 253-5811

The Alliance for Environmental Education (Alliance) supports global environmental quality and understanding through the development and management of the Network for Environmental Education. One of the largest environmental education associations in the nation, the Alliance maintains a neutral forum for the exchange of views among a very broad audience. The Alliance has a membership of over 300 professional, business, education, environmental and other nonprofit organizations and government agencies. Members are linked together by EcoNet, a worldwide computer network. Join with hundreds of other organizations in support of environmental education and participate in the Alliance Network, a proven vehicle that efficiently develops, pilot tests and distributes educational materials nationally to schools and the public.

ASEPTIC PACKAGING COUNCIL
1000 Potomac Street, NW
Suite 401
Washington, DC 20007

The Aseptic Packaging Council is the industry association representing the manufacturers of the drink box. Since 1990, they have worked with school districts and communities to set up both school and curbside recycling programs, which include the collection of milk cartons and drink boxes. As of September 1993, more than 650 schools and more than 675,000 households in the state recycle milk cartons and drink boxes.

Drink boxes and milk cartons are plastic-coated paper. In the recycling process, called hydrapulping, the valuable paper fiber is reclaimed and recovered. The fiber is used in making tissues, paper towels, fine grade writing paper and napkins.

For more information on drink box and milk box carton recycling, please contact:

Northern California:
Genny Hom
Aseptic Packaging Council
100 Pine Street, #2025
San Francisco, CA 94111
(415) 777-0725

Southern California:
Mike Tuley
Tetra Pak Environmental Affairs
8560 Vineyard Avenue, #306
Rancho Cucamonga, CA 91730
(909) 980-1373

BUTTE ENVIRONMENTAL COUNCIL
708 Cherry Street
Chico, CA 95928
(916) 891-6424

The Butte Environmental Council (BEC) is a nonprofit environmental education organization that serves Butte County. BEC provides the community with information and referral services regarding solid waste, hazardous waste and recycling. Schools and community organizations are provided with educational programs and presentations. "Solid Waste and Recycling" is a 45-minute slide program presented by BEC's environmental educator and "Eco-Life" educational programs are games and hands-on activities that augment a teacher's natural resource unit.

BEC produces a series of community litter abatement events such as the Bidwell Park Clean-Up and Little Chico Creek Cleanup. Each spring, BEC produces the Endangered Species Faire, an environmental education fair that features booths and displays provided by schools, resource agencies and nonprofit organizations, as well as music, drama, dance and animal presentations.

BEC's office is open Monday through Thursday 9:00 a.m. to 4:30 p.m.

Clinton Hill's KIDS FOR SAVING EARTH THE POLLUTION SOLUTION
P.O. Box 47247
Plymouth, MN 55447
(612) 525-0002 FAX: (612) 525-0243

The mission of Kids for Saving Earth (KSE) is to educate and empower children of all ages worldwide to unite with friends and take positive, peaceful action to help protect the Earth's environment. KSE supports local community efforts of kids through its many educational programs and publication of a quarterly newspaper, KSE News. Teachers and advisors find KSE educational materials can be easily integrated into their curriculum. By design, the materials provide inspiration as well as stimulate action. Activities are included in each newspaper and present environmental issues through a variety of fun, learning experiences. Annual membership fees in KSE are low and are used to cover postage and printing.

History of KSE - As a fifth grade student, Clinton Hill cared deeply about environmental issues. He believed that children - working together - could help protect the health and beauty of the Earth. Unfortunately, Clinton was unable to realize his dream because at the age of only 11, he died of a brain tumor. Yet his dream lives on through Kids for Saving Earth, a nonprofit organization established by his parents shortly after Clinton's death. What began as a single club of 60 kids has since grown into an international organization with hundreds of thousands of kids worldwide.

COPE

COUNCIL ON PACKAGING IN THE ENVIRONMENT
(COPE)
1001 Connecticut Avenue NW, Suite 401
Washington, DC 20036-5504
(202) 331-0099 FAX: (202) 466-5447

The Council On Packaging in the Environment (COPE) was organized as an independent association in June 1989 with the purpose of meeting the following objectives:

- Increase awareness among policy makers, key opinion leaders, the media and public, that the manufacturers and consumer marketers of packaging are committed to developing and supporting environmentally sound resolutions to the solid waste issue.
- Promote a balanced combination of source reduction, recycling, waste-to-energy recovery and landfilling as the most workable approach to solid waste management.
- Serve as a primary resource for factual, reliable research-based information about packaging, including its function, attributes and role in the solid waste issue.
- Provide a forum for the exchange of technical and scientific information among industry, research institutions, environmental groups, government and the media.

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Earth Island Institute

EARTH ISLAND INSTITUTE
300 Broadway, Suite 28
San Francisco, CA 94133-3312
(415) 788-3666 FAX: (415) 788-7324

Purpose: To develop innovative projects for the conservation, preservation and restoration of the global environment.

Current Emphasis: Earth Island Journal, the International Marine Mammal Project, the Sea Turtle Restoration Project, Baikal Watch, Urban Habitat Program and AT-Work, (the Appropriate Technology Working Group) and others.

Members: 20,000

Annual Fees: Individual - $25; Student - $15

Volunteer Programs: Volunteer programs and internships are available in most projects. Send resumes to the attention of:

Volunteer Coordinator
300 Broadway, Suite 28
Earth Island Institute
San Francisco, CA 94133

EARTH SPIRIT

EARTH SPIRIT
2425 Colorado Ave., Suite 204
Santa Monica, CA 90404
(310) 582-8228 FAX: (310) 315-3007

Earth Spirit is a nonprofit environmental education organization dedicated to informing, entertaining and involving students in recycling and overall environmental appreciation. Thanks to their public/private partnership with government agencies, foundations and corporations, all their services are provided free to schools.

- ***The Recycle Rex School Education Program***
  Developed in conjunction with the California Department of Conservation (Department), this program is a comprehensive, multidisciplinary program which brings curriculum, a 45-minute assembly starring Recycle Rex - the Department's spokesdinosaur and establishes ecology clubs in schools throughout the state of California.

- ***The Earth Spirit Computer Bulletin Board System (BBS)***
  This bulletin board is an on-line computer system that links the local environmental community. Students, ecology clubs, teachers and organizations have free access to the system for debate of issues, a calendar of events, listings of available curriculum, product guides, etc. To access the system, dial 1-310-264-4785 or call the number listed above for more information.

- ***The Earth Spirit Learning Center at Taormina Industries***
  Located at Taormina Industries in Anaheim, Earth Spirit is developing a Learning Center that overlooks California's largest material recovery facility and teaches the community about where garbage goes and the need for recycling.

ECO EXPO

The Great Environmental Emporium

ECO EXPO
The National Marketplace for the Environment
14260 Ventura Blvd., Suite 201
Sherman Oaks, CA 91423
(818) 906-2700 FAX: (818) 906-0367

Eco Expo coordinates and promotes the country's largest marketplace for environmental products, services and ideas for business and the consumer, with over 350 exhibits and 1,000 products displayed at its semiannual trade shows - one in Los Angeles and one on the East Coast . It is an exciting center wherein creative thinking has been put to practice and guaranteed to spark the interests of young minds. Special features have included an Environmental Bookstore, The Young Eco Inventor's Contest, an Environmental Fashion Show, Gourmet Food Demos, an Eco Home, an Environmental Office and a wide variety of nonprofit organizations. A resource directory of past exhibitors is available upon request.

ECO-HOME NETWORK
4344 Russell Avenue
Los Angeles, CA 90027
(213) 662-5207

The Eco-Home Network is a nonprofit, tax-exempt organization whose mission is to enhance individual quality of life and planetary well-being through education, demonstration and building a constituency for ecological urban living.

PROGRAMS:

Demonstration Home Tours: Weekly, public tours are given of the demonstration home for ecological living, showing energy and water efficiency measures, solar technology, recycling, composting, edible landscaping and non-toxic materials and other environmentally sound features.

Hotline/Information Center: Responds to questions regarding environmental health issues and ecological living systems and products.

Reference Library: Information resource for Network members on all aspects of sustainable living.

Newsletter: Subscription to quarterly journal, *ECOLUTION,* comes with membership in the Eco-Home Network, $25 annually.

Eco-Cities Council: Provides educational slide presentations and lectures on sustainable city planning, design and implementation for City Councils, Housing Commissions, Planning Departments, neighborhood and business groups.

Book: *SUSTAINABLE CITIES: CONCEPTS AND STRATEGIES FOR ECO-CITY DEVELOPMENT,* published in November 1992, is a handbook for all those interested in maintaining and improving urban quality of life in an ecologically and economically sound way.

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ECOLOGY ACTION OF SANTA CRUZ
P.O. Box 1188
Santa Cruz, CA 95061-1188
(408) 662-8681

Founded soon after Earth Day in 1970, Ecology Action of Santa Cruz County is a local nonprofit organization which works jointly with the private and public sectors to conserve resources and reduce waste through education, outreach and recycling support services. Ecology Action actively advocates the Reduce-Reuse-Recycle-Buy Recycled ethic, and relies on community support to achieve its goals. Ecology Action welcomes your involvement in the form of suggestions, volunteer time, internships and donations.

Current Activities, Publications and Services:

Master composter training and resource base, home composting education services, compost bin distribution program, annual coastal cleanup, reach-out recycle program (provides in-class presentations for grades 2-12 on the Reduce-Reuse-Recycle-Buy Recycled prioritized approach to waste reduction goals of this program), Ecology Action News, "Where to Recycle in Santa Cruz County" guide, *County Curbsider & San Lorenzo Valley Recycler Bulletin*, recycling research library, coordination and promotion of special-event waste reduction efforts, research and technical assistance for public jurisdictions.

A Non Profit Corporation

ECOLOGY INFORMATION, INC.
P. O. Box 4878
Walnut Creek, CA 94596
(510) 937-INFO

Many people know of Ecology Information, Inc. (Eco-Info) because of its nonprofit sponsorship of the "Contra Costa Earth Day Festival" since 1990; however, many people do not know of its rich history and current projects.

Eco-Info., Inc. was founded in 1971 as a nonprofit corporation whose primary purpose as stated in the articles of incorporation is "to promote exclusively educational, scientific and charitable purposes by establishing and maintaining a coordination center of ecology information and activities for the people of the county of Contra Costa and elsewhere".

In recent years Eco-Info has sponsored several interesting programs and events, including "Redwood Rage". This unique event has combined the community planting of redwood trees along the East Bay Regional Parks trail in Moraga with a free concert and Environmental Education Fair at St. Mary's College Redwood Amphitheater.

Eco-Info also sponsored the formation and first conferences of the Contra Costa Conservation League (CCCL) in 1991 and 1992. CCCL was founded as a loose network of environmentally concerned organizations throughout the Contra Costa area. As a service to the community and the CCCL, Eco-Info has published the "ECO Directory" of Environmentally Concerned Organizations in Contra Costa county.

In 1991, Youth for Environmental Action (YEA!) was founded as a network of high school and junior high school ecology clubs and individuals dedicated to promoting environmental education and awareness. YEA!, which is sponsored by Eco-Info, is dedicated to creating and participating in community activities which have a positive environmental impact such as beach and creek clean-ups, tree planting programs and various educational outreach programs. YEA!'s monthly meetings feature guest speakers covering a number of different environmental topics.

Currently, Eco-Info is making plans to establish a new Environmental Resource Center in Contra Costa county. This resource center will utilize the technological advances of the past decade to provide the latest information about current environmental issues and events.

EDUCATION GREEN CONSULTING

Design & Development of Environmental Adventures in Learning
20701 Lemay Street
Winnetka, CA 91306
(818) 992-6732

Education Green Consulting is a group of environmental education consultants that specialize in:

- Environmental education program design
- Educator training
- Curriculum writing

Current projects include:

1. The design of a school urban forestry program for TreePeople in Los Angeles, including on-site tours, in-school assemblies and a book of integrated curriculum activities for teachers.
2. A composting/soil curriculum for K-6 grade teachers.

EDUCATIONAL COMMUNICATIONS, INC.
P.O. Box 351419
Los Angeles, CA 90035-9119
(310) 559-9160

Educational Communications, Inc., a nonprofit, tax-exempt organization founded in 1958, is dedicated to improving the quality of life on this planet while educating the public about both the problems and solutions. Its many environmental projects including "The Compedium Newsletter", "ECONEWS" television series, "ENVIRONMENTAL DIRECTIONS" and "ENVIRONMENTAL VIEWPOINTS" radio series, the Ecology Center of Southern California (a regional conservation organization), "ECOVIEW" newspaper articles, Environmental Resources Library and the Directory of Environmental Organizations. The group works on all environmental issues ranging from the local to international level. Services provide a speaker's bureau, award-winning public service announcements (PSAs), radio and television documentaries and input into the decision-making process.

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educational
video center

EDUCATIONAL VIDEO CENTER
60 East 13th Street, 4th floor
New York, NY 10003
(212) 254-2848 FAX: (212) 777-7940

Educational Video Center (EVC), founded in 1984, is dedicated to empowering New York City public high school students through the creative use of media. EVC is considered a leader in providing training and support services in documentary production and media literacy to high school students and their teachers. Through the process of creating documentaries on youth and community issues, students learn valuable skills and gain a more profound understanding of the world around them. The EVC collection contains several tapes on issues about environmental concerns along with teacher guides. Their student newsletter "YVM - Young Videomakers" - is published every semester, highlighting recently completed tapes and other news pertaining to youth, media and EVC. They also publish a newsletter by and for educators entitled "Video and Learning" which is available through subscription. For a brochure or catalogue of EVC programs, please contact the EVC office.

ENVIRONMENTAL ACTION COALITION
625 Broadway, 2nd floor
New York, NY 10012
(212) 677-1601

Environmental Action Coalition (EAC) works with waste management, urban forestry, water use and environmental education issues. Members receive their quarterly "CYCLE" newsletter, as well as free loan of books and films from EAC's library.

Interdisciplinary Curriculum Guides:

- "City Trees, Country Trees" - forestry
- "Plant A Tree For Arbor Day" - urban forestry
- "Don't Waste Waste" - solid waste management
- "Woods and Water" - water supply and conservation

(Each curriculum guide costs $4.00)

Environmental Action Coalition's library of 2,000 volumes on environmental topics is open to the public. Research papers are available for a small fee. Please call their office first to arrange an appointment.

EcoSlo
Environmental Center of San Luis Obispo County

ENVIRONMENTAL CENTER OF SAN LUIS OBISPO COUNTY
967 Osos Street
San Luis Obispo, CA 93401
(805) 544-1777 FAX: (805) 544-1871

The Environmental Center of San Luis Obispo County (ECOSLO) is "dedicated to assisting our community in its pursuit of sustainability". ECOSLO is the county's longest-operating recycling center. They are a central clearinghouse for information relating to ecology and referrals. They also create exciting educational projects which are available to community schools and children's summer programs. ECOSLO's credo is: "the more effort that is put into educating our children and citizens on the wise use of our natural resources, the more likely that we can maintain the lifestyle unique to San Luis Obispo which promotes clean air, outdoor living and respect for our natural environment."

Environmental Volunteers

ENVIRONMENTAL VOLUNTEERS
2448 Watson Court
Palo Alto, CA 94303
(415) 424-8035

The Environmental Volunteers (EV) was founded in 1972 as a nonprofit organization dedicated to promoting understanding of and responsibility for the environment through hands-on science education.

EV is composed of over 150 docents who have completed a 14-week training course, accredited through San Jose State University.

The volunteers are business leaders, homemakers, teachers and artists, women and men of all ages, who share their love of nature and science with over 14,000 elementary school children annually in San Mateo and Santa Clara counties.

The EV's participatory, small group method uses study skins, models, puppets and artifacts in a combination of classroom presentations and field trips to sites that reflect the diverse environments of the Bay area. EV's programs include Bay Ecology, Forest and Foothill Ecology, Marine Ecology, Nature in Your Neighborhood (suburban/urban ecology), Earthquake Geology and Preparedness, Water Science and Conservation and Early California Native American Culture. Additional topics are available in one-hour classroom presentations. EV docents lead field trips to sites which reflect the diversity of our landscape. These include Palo Alto Baylands, Stanford's Jasper Ridge Biological Preserve, Stevens Creek Park, Deer Hollow Farm, Los Trancos Open Space Preserve, Alviso Interpretative Center and Villa Montalvo.

GLOBAL RESPONSE

GLOBAL RESPONSE
Environmental Action Network
P.O. Box 7490
Boulder, CO 80306-7490
(303) 444-0306

Global Response (GR) is a nonprofit environmental and action network. GR is an international letter-writing network focusing on the transfer of pollution and/or polluting technologies between countries and the exploitation of resources by multinational companies.

Global Response is a dedicated letter-writing network of environmental activists focusing attention on specific planetary threats and mobilizing broad-based campaigns to hold those responsible, accountable.

Global Response issues "GRActions" on rainforest destruction, ocean dumping and pollution, atmospheric contamination, nuclear disarmament, extinction, and threats to marine mammals and fisheries. Each monthly "GRAction" highlights a specific environmental threat, recommends action to take and gives the names and addresses of the corporations responsible.

GR also issues a monthly "Young Environmental Action", (in both English and Spanish) a simplified, larger-print version of "GRActions" for use by elementary and junior high school students. GR's "Young Environmental Action" is a meaningful, multidisciplinary resource to increase environmental protection awareness. The Spanish version of "Young Environmental Action" is used in the United States by high school Spanish language classes, bilingual schools and by educators and environmentalists throughout Central and South America.

I LOVE A CLEAN SAN DIEGO COUNTY, INC.
7907 Ostrow Street, Suite F
San Diego, CA 92111
(619) 467-0103 FAX: (619) 467-1314

I Love a Clean San Diego County, Inc. (ILACSDC) is a not-for-profit environmental membership organization that educates and empowers people to act in ways that are both economically viable and ecologically sustainable. The staff performs this mission through a variety of educational programs. Each year, the agency provides over 200 free environmental assemblies to over 60,000 students and teachers. These presentations are based on *Recycle and You Save (RAYS)*, a K-6 grade curriculum written by San Diego county teachers. ILACSDC helps distribute *RAYS* as well as provide free *RAYS* in-service workshops for school staff. The agency also publishes "The Junior Recycler", a newsletter for elementary school-age children and helped to develop a graffiti abatement lesson plan for San Diego city schools.

ILACSDC is presently coordinating the development of a 7-12 grade interdisciplinary, environmental curriculum that will be available in 1994. The agency coordinates the Junior High and High School Environmental Awareness Program for the City and County of San Diego, helping over 50 secondary schools establish ecology clubs and carry out environmental projects. ILACSDC maintains the largest environmental library in southern California and operates a recycling hotline six days a week, answering over 30,000 calls a year.

INVENTORS WORKSHOP INTERNATIONAL EDUCATION FOUNDATION
7332 Mason Avenue
Canoga Park, CA 91306-2822
(818) 340-4268 FAX: (818) 884-8312

Inventors Workshop International Education Foundation (IWIEF) is a nonprofit educational foundation founded in 1971. It was established to assist the development and commercializations of environmentally related products and services. It is a crusader for the public's rights as inventor as well as the largest, most active and most innovative of the ethical invention organizations in the U.S.A. Intellectual property protection, "Green" certification, financing and material sources, marketing and licensing are its focus.

KEEP AMERICA BEAUTIFUL, INC.
Mill River Plaza
9 West Broad Street
Stamford, CT 06902
(203) 323-8987 FAX: (203) 325-9199

Keep America Beautiful, Inc. (KAB) is a national, nonprofit, public education organization with local affiliates, dedicated to improving solid waste handling practices in American communities. KAB, Inc. was founded in 1953 by members of business and industry out of concern for the environment. In 1976, after three years of research into the origins of littering, KAB's mission grew and the KAB SYSTEM was launched.

Today, nearly 500 American communities in 41 states are certified to implement the Keep America Beautiful program.

Additionally, thousands of schools throughout the country are using KAB's curricula and resource materials to prepare future generations to act and think responsibly about solid waste management.

To receive a free catalog of materials available from KAB, please call or write to the above address and phone number.

KEEP CALIFORNIA BEAUTIFUL, INC.
1601 Exposition Blvd. FB 15
Sacramento, CA 95815
800-CLEAN-CA (916) 924-5667 FAX: (916) 920-8119

Keep California Beautiful, Inc. (KCB) is a nonprofit, public education organization that helps keep our state clean by developing and coordinating solid waste management, recycling, and litter and graffiti prevention programs.

KCB is the state affiliate of the National Keep America Beautiful program, which offers a sequential elementary curriculum, "Waste In Place," and an in-depth middle and secondary school curriculum, "Waste: A Hidden Resource."

KCB sponsors the Annual California Cleanup each fall in partnership with the California Department of Conservation, the California Department of Parks and Recreation, Cal Trans "Adopt-A-Highway," Cal EPA and the California Coastal Commission. On the same Saturday as the Coastal Commission's highly successful Beach Cleanup, local Keep America Beautiful affiliates, KCB and the other state agencies sponsor additional activities in state parks and on roadways throughout California for enthusiastic volunteers who cannot reach the coast.

To respond to waste reduction needs at the local level, KCB recently established the KCB Network, a partnership of California cities and counties sharing educational programs and strategies for waste minimization, litter prevention and graffiti removal. Upon joining the network, new members receive a variety of planning and educational materials to be used throughout the community and are guided in developing local projects and programs.

KIDS FOR A CLEAN ENVIRONMENT
(Kids F.A.C.E.)
P. O. Box 158254
Nashville, TN 37215
(800) 952-3223 or (615) 331-7381

Kids for a Clean Environment is a nonprofit children's environmental organization that provides free membership to children and teachers. Included with the membership is a membership guide: "Our World, Our Future: A Kids' Guide to Kids For A Clean Environment," and a subscription to the bimonthly newsletter, "Kids F.A.C.E. Illustrated." These materials focus on environmental topics and offer proactive projects that can be performed at home or at school. The organization's current project is the Kids International Earth Flag. Kids can send in fabric squares with their idea of a clean environment drawn or painted on them. For instructions, send a self-addressed, stamped envelope to the above address.

MARIN CONSERVATION CORPS
446A West Francisco Boulevard
P. O. Box 150089
San Rafael, CA 94915-0089
(415) 454-4554 FAX: (415) 454-4595

The Marin Conservation Corps (MCC) is a work-training program dedicated to preserving and restoring natural areas in Marin. The goals of the organization are to provide youth, ages 18 26 with an opportunity to gain skills in conservation work; encourage personal growth; assist youth with learning English or attaining their General Equivalency Diploma and help with job placement.

MCC runs a recycling route which services Marin's public lands and nonprofit environmental organizations. They currently pick up recyclable glass, aluminum, tin, plastic and cardboard from the Marin Headlands to Stinson Beach. One of their crews has created a "Waste Management Presentation" that is appropriate for middle-school students. It consists of a set of lessons based on the concepts of "Reduce, Reuse, Recycle," complete with games and activities for students. Although these presentations are currently not being conducted, the MCC education packet is available upon request as well as a speaker's bureau comprised of MCC members, who go to local schools and discuss the benefits of the MCC program.

MARIN CONSERVATION LEAGUE
35 Mitchell Blvd., Suite 11
San Rafael, CA 94903
(415) 472-6170

Marin Conservation League (MCL) is a nonprofit organization founded to preserve and protect the natural assets of Marin county for all people. The Marin Conservation League has an active public education program which offers forums, resource materials for teachers and others interested in environmental issues and general environmental information for the public. Each year they offer two to three educator workshops on a variety of environmental topics. They have a small library of free loan videos, books and classroom activity guides suitable for educators.* An exhaustive clip file on many environmental issues is a boon to any researcher. In addition, throughout the school year they distribute well-researched issue-focused newsletters on environmental topics. These are suitable for gaining understanding of issues.

* *Those wishing to use their resources must come to their office to check them out - they do not mail materials. Interested educators can be added to the MCL mailing list for newsletters and/or workshops.*

NAPCOR

NATIONAL ASSOCIATION FOR PLASTIC CONTAINER RECOVERY
3770 Nations Bank Corporate Center
100 North Tryon Street
Charlotte, NC 28202
(704) 358-8882 FAX: (704) 358-8769

The National Association for Plastic Container Recovery (NAPCOR) is a not-for-profit trade organization founded in 1987 to promote and facilitate the recycling of polyethylene terephthalate (PET) plastic containers, the most successfully recycled plastic. NAPCOR's goals are to help communities recognize the environmental benefits of recycling as part of a solid waste plan and promote the inclusion of PET containers in recycling programs.

Recycled PET containers, primarily two-liter soft drink bottles and other plastic containers with the number 1 on the bottom, can be made into a variety of products like new soft drink bottles, tennis ball containers, carpet fiber and fiberfill for sleeping bags and jackets. In addition to soft drink bottles, PET plastic is used in containers for juice, water, peanut butter, edible oils, ketchup, mustard, pourable salad dressings, cough syrup, spices and cleaning products.

NAPCOR recognizes that children play an integral part in the recycling movement and that the environment is a dominant concern among the young. Toward that end, NAPCOR has developed a series of materials targeted specifically to children, teachers and parents. These materials review the importance of PET plastic recycling and outline how the recycling process works.

THE NATURE CONSERVANCY
International Headquarters
1815 North Lynn Street
Arlington, VA 22209
(703) 841-5300 FAX: (703) 841-5373

The mission of The Nature Conservancy (Conservancy) is to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

To date, the Conservancy and its members have been responsible for the protection of more than 6.3 million acres in 50 states and Canada. It has helped like-minded partner organizations to preserve millions of acres in Latin America and the Caribbean. While some Conservancy-acquired areas are transferred for management to other conservation groups, both public and private, the Conservancy owns more than 1,300 preserves—the largest private system of nature sanctuaries in the world.

PERMACULTURE INSTITUTE OF SOUTHERN CALIFORNIA
1027 Summit Way
Laguna Beach, CA 92651
(714) 494-5843 (Bill Roley)
(213) 473-1084 (Eric Werbalowsky)

Permaculture is a science that studies natural systems, such as water, plant and animal guilds, energy, soils and technology. Permaculture focuses on sustainable systems, those with no pollution or waste. It maintains the ethic that all systems of human activities support the Earth's ability to sustain a diversity of life; that humans interact with their environment in mutually beneficial ways; and supports a lifestyle that incorporates this knowledge and ethic into appropriate activities. Permaculturalists may build a different style of house, recycle a variety of "trash," grow their own organic food, ride bicycles, work toward energy self-reliance, consume few products of wasteful systems, support a strong local/alternative economy, and work to protect the environment through political and other means.

The Permaculture Institute of Southern California provides public education on sustainable living, urban and rural permaculture design services and referrals, workshops, publications and AV materials, and permacultural property development.

SAN FRANCISCO CLEAN CITY COALITION
900 Seventh Street
San Francisco, CA 94107
(415) 553-2913

Established in 1991, the San Francisco Clean City Coalition is a nonprofit, non-political umbrella organization dedicated to solving the city's litter problem and educating the public about progressive waste management practices.

Under the banner, "San Francisco: One Neat City," the San Francisco Clean City Coalition has developed six targeted litter abatement programs, each designed to address the city's litter problem from a different perspective: Community Action - encouragement and assistance for individual and grass roots initiatives; the Public Awareness program - a major media campaign; the Litter Receptacle design program; Civic Awards and Rewards - an incentive program; Legal Advocacy and Networking, and the Litter Abatement and Environmental Awareness Education Program.

The purpose of the Coalition's Litter Abatement and Environmental Awareness Education Program is to provide elementary and middle school teachers with a comprehensive education package which will lead to the prevention of litter and graffiti, and instill an environmental and community ethic in children. This multi-modality learning program includes a waste disposal curriculum and classroom exercises, lectures by community volunteers, school yard cleanups - a service learning activity and a field trip to San Francisco's one-day waste holdover site, the transfer station and recycling center. The object is to provide students with information, experience, and a model for proactive community action, creating awareness not only of the problem, but of a solution and result in a climate of positive peer pressure and civic and school pride. San Francisco teachers can enroll their classes in the complete program by calling by mid-September. Teachers may call anytime for information or to sign up for limited parts of the program.

PROJECT ECO-SCHOOL
881 Alma Real Drive, Suite 300
Pacific Palisades, CA 90272
(310) 454-4585 FAX: (310) 454-9925

Project Eco-School (PES) is a nonprofit resource center for environmental education (EE). PES houses the nation's most comprehensive K-12 environmental resource and curricula library. Founded in 1989, PES is located in the greater Los Angeles area. For the past five years, PES has sought to solve educators' problem of accessing quality environmental education (EE) materials by aggressively researching, locating, acquiring and reviewing EE materials from around the country.

PES also networks with and provides information services to educators, students and environmental organizations internationally, nationally and locally.

MATERIALS CURRENTLY HOUSED
PES has over 900 teacher-reviewed EE curricula titles and an accompanying library of over 5,000 periodicals, books and videos. Their resources can be accessed by phone, mail, a personal visit and, soon, through the PES reference book, "Blueprint For A Green School".

PROVIDES QUALITY NETWORKING FOR SCHOOLS
Every individual request is important at PES. The staff goes the extra mile to gather information or connect complementary, similar or interested parties.

ACTIVE OUTREACH PROGRAM PES attempts to assess the needs of teachers and students. PES also promotes and assists with school recycling programs and "Zero Waste" lunch campaigns.

COMMUNICATIONS
"Grapevine," a biannual newsletter, has a circulation of 10,000, to promote working together and student empowerment.

"Action Alerts" go to specific individuals who have requested to be informed of upcoming new programs, events and workshops that warrant timely notification. It is an excellent means of communication and often serves as a bulletin board for available EE.

STOPS DUPLICATION OF EE
PES provides a single clearinghouse for K-12 EE to reduce the frequently duplicated efforts.

DONATED LIBRARIES
Individuals or corporations can donate environmental book libraries of different sizes to a school of their choice.

SCHOLASTIC TO PUBLISH "BLUEPRINT FOR A GREEN SCHOOL"
PES has compiled an EE resource book, "Blueprint for a Green School," (BFGS). Environmental issues impacting schools are briefly introduced by chapter followed by suggested activities and many resources.

BFGS provides educators and students with:

- The information they need to explore environmental issues and make positive changes at their own school.
- Guidance for taking positive action.
- A comprehensive listing of environmental curricula, books, videos, products, services and other relevant materials.

OFFICES AND RESOURCE CENTER
PES is open five days a week, 8:30 a.m. to 6:00 p.m. or in the evening and on weekends by appointment.

158

SAN FRANCISCO CONSERVATION CORPS
Environment Community Outreach Center
1050 South Van Ness
San Francisco, CA 94110
(415) 920-7171 FAX: (415) 920-7180

The San Francisco Conservation Corps (SFCC) Environment Community Outreach (ECO) Center serves 45 urban young adults aged 18-23 and 96 middle school students. Young people participate in paid work projects that include recycling, landscaping, graffiti removal, mural painting, refurbishing recycling and reuse facilities, and habitat restoration. The staff have developed an innovative, interactive curriculum called Field Studies, targeted at urban middle school youth who require a different approach than many traditional curricula employ. Field Studies places a strong emphasis on recycling and also includes related solid waste management and environmental issues. They also have a curriculum that complements their Environmental Internship Project, in which adults are placed at recycling and environmental internships throughout San Francisco. They would be happy to share their resources with anyone who is interested.

REDUCE. RE-USE. RECYCLE. RECOVER

SCRAP TIRE MANAGEMENT COUNCIL
1400 K Street, NW
Washington, D.C. 20005
(202) 408-7781 FAX: (202) 682-4854

The Scrap Tire Management Council is an independent organization based in Washington, D.C., created by the North American tire industry in 1990 as a response to its own growing concern regarding the disposal of scrap tires.

The mission of the Scrap Tire Management Council is to assist in developing and promoting the utilization of scrap tires as a valuable resource, in an environmentally and economically sound manner.

Many tires disposed of as scrap are actually still serviceable in some renewed form, while true scrap tires possess materials and high energy value that are considerably underutilized. The education of environmentally concerned audiences on scrap tire issues is the key to halting the waste of these resources.

By offering members of private industry and local, state and federal governments comprehensive information on state-of-the-art scrap tire reduction, reuse, recycling and recovery techniques, the Scrap Tire Management Council hopes to facilitate the implementation of sensible scrap tire solutions across the country.

SEA SHEPHERD CONSERVATION SOCIETY
1314 2nd Street
Santa Monica, CA 90401
(310) 394-3198 FAX: (310) 394-0360

The Sea Shepherd Conservation Society is a nonprofit organization involved with investigation and documentation of violations of international laws, regulations and treaties protecting marine wildlife species. Sea Shepherd publishes a quarterly newsletter full of education information, updates on current laws and legislation, addresses for writing protest letters and updates of SSCS activities.

The Society was founded by Captain Paul Watson. He was one of the original founding fathers of Greenpeace, but left in 1977 to establish Sea Shepherd. Sea Shepherd is supported totally by contributions from the public, and has always remained a mobile and non-bureaucratic organization. Sea Shepherd ships are crewed by volunteers and engage in expeditions armed with cameras and videotape to document any illegal exploitation of marine wildlife. With the evidence on film, Sea Shepherd has been able to work closely with the media to publicize the issues, and turn-in violators to officials, as well as to document our successes which include ending the seal hunt in the Scottish Orkney Islands, the dolphin slaughter in Iki, Japan and stopping illegal driftnetters in the Pacific Ocean. Sea Shepherd is the only organization that enforces the International Whaling Commission moratorium prohibiting whaling. The Society is committed to the goal of "being in business for the purpose of putting ourselves out of business", but unfortunately, illegal operations have not only continued, they have escalated in recent months. Sea Shepherd will remain devoted to protecting the citizens of the oceans as long as is necessary.

SIERRA STUDENT COALITION
730 Polk Street
San Francisco, CA 94109
(415) 923-5615 FAX: (415) 776-0369

Founded in 1991 by a 17 year-old Sierra Club member in Los Angeles, the Sierra Student Coalition has quickly blossomed into an activist network of thousands of young people stretching across the United States and Canada. They are the only national, student-run grassroots network working within a major established environmental organization to move the student agenda. Deeply committed to environmental and social justice issues, they are spreading these priorities into the mainstream environmental movement.

The Sierra Student Coalition initiates and organizes national, regional, and local issue campaigns, uniting individual students, campus groups and environmental organizations in efforts to achieve positive change. They are dedicated to making students the most effective, responsible activists they can be.

The Sierra Student Coalition publishes "The Student Activist," a bimonthly newsletter developed by students to galvanize individuals and groups toward action by providing updates, ideas for campaigns, action alerts, tips on organizing and more.

The Sierra Student Coalition conducts leadership training to empower students with the vital skills they need to be effective activists. The training is run by experienced student activists from around the country and emphasizes practical, hands-on strategy planning and organizing techniques.

150

STEEL CAN RECYCLING INSTITUTE
Steel Cycles Program
680 Andersen Drive
Pittsburgh, PA 15220-2700
(412) 922-2772 FAX: (412) 922-3213

The Steel Recycling Institute (SRI), an industry association dedicated to promoting and sustaining steel recycling, is the primary information and technical resource for recyclers, municipalities, legislators, educators, businesses and other entities with an interest in steel recycling. Through its seven regional offices, the SRI works directly with city and county recycling coordinators and solid waste managers, recycling center operators, intermediate processors and end-market buyers.

The Institute believes that students and teachers can make a real difference in solid waste management efforts today and tomorrow, and that what students learn, they take home with them to share with family and friends. That's why the "Steel Cycles" program is being developed. It currently includes printed materials for the classroom, and by 1994, will also include a pre-school program, an elementary videotape and a high school science program with an emphasis on real-life examples to help students better integrate science concepts. Please write to the address above and be sure to include information regarding the grade(s) you teach, what subject area(s) and how many students you have. Much of the material is provided free of charge; for those items with an associated charge, an order form will be sent.

TREEPEOPLE
12601 Mulholland Drive
Beverly Hills, CA 90210
(818) 753-4600 FAX: (818) 753-4625

TreePeople's mission is to inspire the people of Los Angeles to take personal responsibility for improving their immediate environment by:

1. Supporting the planting and care of trees
2. Providing educational tools for environmental stewardship
3. Serving as a catalyst for cooperative action among Los Angeles' diverse neighborhoods and communities
4. Communicating the importance of the concept of the "urban forest"

TreePeople's School Education Department offers "The Magical City Forest Curriculum" which provides lessons on the urban forest. The different activities are designed to begin with nature's cycles, lead to our role and impact on those cycles and finally conclude with actions we all can take to lessen our impact on those cycles.

Includes activities on composting, reducing, reusing, recycling and tree planting. For information on how to receive curriculum, write to TreePeople at the address above.

THE UNITED NATIONS ENVIRONMENT PROGRAMME
North American Office
Room DC2-0803/866
United Nations Plaza
New York, NY 10017

The "Save the Earth Personal Action Guide For The United Nations Environment Programme" is an 18-page booklet of information on what each individual can do in their home and community to ease the impact on the environment. The booklet is officially sanctioned by the United Nations Environment Programme and is sold to benefit Friends of the United Nations, a nonprofit organization whose sole mission is to bring information from the United Nations to the public. Cost of the booklet is $2 plus $1 for postage and handling. Bulk rates are available. Purchases should be addressed to the publisher:

David Bean Associates
37101 Hiway One
Monterey, CA 93940

WILDLIFE WAYSTATION
14831 Little Tujunga Canyon Road
Angeles National Forest, CA 91342-5999
(818) 899-5201

Wildlife Waystation is a nonprofit facility which rescues, shelters and rehabilitates wild and exotic animals. More than 750 wild animals are "in residence" at this southern California facility at any one time, including lions, tigers, leopards, bears, primates, reptiles and a variety of California native wildlife. The primary educational goals of Wildlife Waystation are to teach an appreciation of wild animals through up-close observation, provide general information on environmental concerns such as habitat destruction and to discourage people from owning wild animals as pets. The facility is open for tours the first and third Sundays of every month, weather permitting. Group tours and school presentations are also available by special arrangement. A small donation is requested for tours and presentations. A 50-minute videotape about the facility is also available for classroom use ($25). Wildlife Waystation is located just north of the San Fernando Valley of Los Angeles.

Local Government & Community Resources

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Alameda	Alameda	Recycling Coordinator	Marge McLean	City Government	2411 Santa Clara Ave	94501	(510) 748-4593		x	
Alameda	Albany	Recycling Coordinator	Darren Fields	City Government	100 San Pablo Ave	94706	(510) 528-5710	x	x	
Alameda	Berkeley	Owner	Louis Appling Sr	Appling & Son Recycling	1850 Solano Ave	94707	(510) 653-5460			
Alameda	Berkeley	Recycling Program Mgr	James Liljenwall	City Government	1201 2nd St	94710	(510) 644-8893	x	x	
Alameda	Berkeley	Recycling Operator	Jeff Belchamber	Community Conservation Centers, Inc	669 Gilman St	94710	(510) 524-0113	x		x
Alameda	Castro Valley	Owner	Melvin Weiss	WeisCo Recycling	20471 Waterford Pl	94552	(510) 733-6881	x		
Alameda	Dublin	Recycling Coordinator	Paul Rankin	City Government	P O Box 2340	94568	(510) 833-6650		x	
Alameda	Dublin	Recycling Coordinator Mgt Asst	Bo Barker	City Government	P O Box 2340	94568	(510) 833-6650		x	
Alameda	Emeryville	Recycling Coordinator	Karen Hemphill	City Government	2200 Powell St, 12th Fl	94608	(510) 596-4306	x	x	
Alameda	Fremont	Recycling Coordinator	Ferial Mosley	City Government	P O Box 5006	94537	(510) 745-2772	x	x	
Alameda	Fremont	Area Business Manager	Darryl Dabel	Reynolds Aluminum Recycling Co	40595 Albrae St	94538	(510) 651-6204		x	
Alameda	Fremont	Convenience Center Supervisor	John Ferrari	Reynolds Aluminum Recycling Co	40595 Albrae St	94538	(800) 637-6951	x	x	
Alameda	Hayward	Operations Manager	Jean Curry	Action Recycling	1752 Sabre St	94545	(510) 784-7348	x		x
Alameda	Hayward	General Manager	LaVerne Ljunggren	Bevcon Processors, Inc	31625 Hayman St	94544	(714) 279-2200			
Alameda	Hayward	Environmental Specialist Mgr	Cynthia Palacio	City Government	25151 Clawiter Rd	94545	(510) 293-5015	x	x	
Alameda	Hayward	Recycling Coordinator	Joseph Lambert	City Government	25151 Clawiter Rd	94545	(510) 293-5464	x	x	
Alameda	Hayward	Owner	Richard Fry	Fry's Metals	1845 W Winton	94544	(510) 276-4344			
Alameda	Hayward	Recycling Coordinator	Debbie Jeffrey	Oakland Scavenger Co	22770 Main St	94541	(510) 613-0234	x	x	x
Alameda	Livermore	General Mgr & Recycling Coordinator	Dan Borgess	City Government	6175 South Front Rd	94550	(510) 447-1300	x	x	
Alameda	Livermore	Owner	Nate Sorkin	Tri-Valley Recycling	3575 First St, Ste C & D	94500	(510) 606-1701			
Alameda	Newark	General Manager	Michael Centers	Allwaste Recycling, Inc	6565 Smith Ave	94560	(510) 791-6980	x	x	x
Alameda	Newark	General Manager	Michael Centers	Allwaste Recycling, Inc	35325 Fircrest Ave	94560	(510) 791-6985	x	x	x
Alameda	Newark	Recycling Coordinator	Jim Reese	City Government	37101 Newark Blvd	94560	(510) 790-7201	x	x	
Alameda	Newark	General Manager	Crawford Carpenter	Recycled Fibers of CA	6565-B Smith Ave	94560	(510) 795-7228	x	x	x
Alameda	Oakland	Owner	Jay Anast	Allied Metals	3426 Peralta St	94608	(510) 547-2408	x		x
Alameda	Oakland	President	Robert Hifai	Alpha Metals & Salvage Corp	9957 Medford Ave	94615	(510) 430-3056			
Alameda	Oakland	Owner	Louis Appling Sr	Appling & Son Recycling	620 51st St	94609	(510) 653-5460			
Alameda	Oakland	General Manager	Annette Holck	Bay Recycling, Inc	800 - 77th Ave	94621	(510) 638-5513	x	x	
Alameda	Oakland	Plant Manager	Pat McCabe	Brockway, Inc (NY)	8717 G St	94621	(510) 632-7250			
Alameda	Oakland	Executive Director	Sam Lazar	Business & Citizens Crime Prevention Council, Inc	1639 18th St	94607	(510) 655-4700			
Alameda	Oakland	CEO	Frank Chang	CCY, Inc	2505 Poplar St	94607	(510) 835-3537			
Alameda	Oakland	Manager	Salvador Solorzano	Community Recycling Center	3550 Adeline St	94608	(510) 653-2104		x	x
Alameda	Oakland	Plant Buyer	Frank Rouch	Container Corporation of America	3300 Wood St	94608	(510) 428-9499	x	x	x
Alameda	Oakland	Deputy Director GSA Purchasing	Gary Holm	County Government	4400 MacArthur Blvd	94619	(510) 530-9660			
Alameda	Oakland	Recycling Coordinator	Bess Eckl	County Government	4400 MacArthur Blvd	94619	(510) 535-6380	x	x	
Alameda	Oakland	General Manager	Annette Holck	County Recycling Service, Inc	800 77th Ave	94621	(510) 638-4327	x	x	
Alameda	Oakland	General Manager	Pat O'Brien	Custom Alloy Scrap Sales, Inc	2730 Peralta St	94607	(510) 893-6476	x		x
Alameda	Oakland	Vice President	Raymond Cherry	D C Metals, Inc	1401 3rd St	94607	(510) 836-1655			
Alameda	Oakland	General Manager	Daniel Belknap	Four-One-Five Society	3600 Joaquin Miller Rd	94602	(510) 530-4818			
Alameda	Oakland	President	John Garcia	Goodwill Industries Greater East Bay	1301 30th Ave	94601	(510) 534-6666			
Alameda	Oakland	Vice-President	Lynn Kantor	Lakeside Non-Ferrous Metals	412 Madison St	94607	(510) 444-5466	x		x
Alameda	Oakland	Manager	Richard Wang	National Recycling Corp	1312 Kirkham St	94607	(510) 268-1022	x	x	x
Alameda	Oakland	Executive Director	Susan Bluestone	Oakland Recycling Assoc	P O Box 11492	94611	(510) 444-8633	x		
Alameda	Oakland	General Manager	Arthur Boone	Oakland Recycling Assoc	5544 Kales Ave	94618	(510) 444-8633			

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Alameda	Oakland	Plant Controller	Roger Sandstorm	Owens Illinois Glass Container, Inc	3600 Alameda Ave	94601	(510) 436-2031	x	x	x
Alameda	Oakland	Assistant General Manager	Mark Madden	Schnitzer Steel Industries, Inc	P O Box 747	94604	(510) 444-3919	x		x
Alameda	Oakland	President	Jason Allen	Standard Iron & Metals Co	801 69th Ave	94621	(510) 638-6576			
Alameda	Oakland	Director	Melvin Weiss	U S Recycling Industries	1800 Harrison St, Ste 1100	94612	(510) 268-1598	x		
Alameda	Oakland	Vice President	Bernard Meyerson	West Bay Resources, Inc	231 Fallon St	94607	(510) 272-0861	x		x
Alameda	Oakland	Owner	Miriane Washington	Miriane Washington Recycling Center	933 32nd St, #3	94608	(510) 658-4391	x	x	x
Alameda	Piedmont	Recycling Coordinator	Lon Salamck	City Government	120 Vista Ave	94611	(510) 420-3040	x	x	
Alameda	Pleasanton	Compliance Information Officer	Chris Sherwood	City Government	P O Box 520	94566	(510) 484-8277	x	x	
Alameda	Pleasanton	Recycling Coordinator	Steven Bocian	City Government	P O Box 520	94566	(510) 484-8008	x	x	
Alameda	Pleasanton	Owner	Robert Molinaro	Recycling & Resource Recovery Systems	3110 Busch Rd	94566	(510) 846-4062		x	x
Alameda	San Leandro	Trader	Stephen Glucoft	Alco Iron & Metal Co	1091 Doolittle Dr	94577	(510) 562-1107			x
Alameda	San Leandro	Recycling Coordinator	Robert Taylor	City Government	14200 Chapman Rd	94578	(510) 577-3440	x	x	
Alameda	San Leandro	General Manager	Annette Holck	Oakland Scavenger	2615 Davis St	94577	(510) 638-4327	x	x	
Alameda	San Leandro	Owner	Anthony Yacek	W C Rose Co	2399 Davis St	94577	(510) 569-2255		x	
Alameda	Sunol	Vice President	Daniel Kipp	Golden State Glass Recycling	8003 Athenour Way	94586	(510) 791-6985	x		x
Alameda	Union City	Plant Manager	William Richardson	Anheuser Busch Recycling Corp	29995 Ahern Ave	94587	(510) 471-4776		x	x
Alameda	Union City	Recycling Coordinator	Tom Tynes	City Government	34009 Alvarado-Niles Rd	94537	(510) 471-3232	x	x	
Alameda	Union City	President	Richard Valle	TRI-CED Community Recycling	33300 Central Ave	94587	(510) 471-3850	x	x	x
Alameda	West Oakland	President	David Duong	California Waste Solutions, Inc	1020 10th St	95112	(510) 832-8111	x	x	x
Alpine	Markleeville	Recycling Coordinator	Jeanne Lear	County Government	P O Box 387	96120	(916) 694-2287	x	x	
Alpine	Woodfords	Treasurer	Edie Veatch	Alpine Childrens Center	150 Old Pony Express Way	96120	(916) 694-2390			
Amador	Amador	Recycling Coordinator	Susan Bragstad	City Government	P O Box 79	95601	(209) 267-5506	x	x	
Amador	Ione	President	Robert Grunigen	Amador Disposal Service, Inc	6500 Buena Vista Rd	95640	(209) 274-2454		x	x
Amador	Ione	Recycling Coordinator	Randi Johnson	City Government	P O Box 398	95640	(209) 274-2412	x	x	
Amador	Ione	Owner	Patrick Germolus	P H G Recycling	417 Shakelry Ln	95640	(209) 274-2418			
Amador	Jackson	Recycling Coordinator	James Buell	City Government	33 Broadway	95642	(209) 223-1646	x	x	
Amador	Jackson	Recycling Coordinator	Noel Bonderson	County Government	108 Court St	95642	(209) 223-6429	x	x	
Amador	Pine Grove	General Manager	Erin Ainsworth	Amador Acquisition Corp	13940 Walnut St	95665	(209) 296-7909	x	x	
Amador	Plymouth	Recycling Coordinator	Valerie Klineselter	City Government	P O Box 757	95669	(209) 245-3168	x	x	
Amador	Sutter Creek	Owner	Bob Grunigen	Amador Surplus	Hwy 49 & Old Sutter Hill Rd	95685	(209) 274-2454		x	x
Amador	Sutter Creek	Recycling Coordinator	Mike Kirkley	City Government	P O Box 792	95685	(209) 267-0788		x	
Amador	Sutter Creek	President	Ross Oliveto	Oliveto Distributing Co	5 Forest Product Rd	95685	(209) 223-4344			
Butte	Biggs	City Engineer	Meryl Henry	City Government	P O Box 307	95917	(916) 868-5428		x	
Butte	Chico	General Manager	Barbara Vlamis	Butte Environmental Council, Inc	708 Cherry St	95928	(916) 891-6424	x	x	
Butte	Chico	President	George Scott	Chico Scrap Metal	878 E 20th St	95928	(916) 343-7166		x	x
Butte	Chico	Recycling Coordinator	Bob Koch	City Government	P O Box 3420	95927	(916) 895-4820			
Butte	Chico	President	Richard Gross	North Valley Disposal	15 Valley Ct	95926	(916) 893-4777			
Butte	Chico	Recycling Coordinator	Jerry Morano	Work Training Center Handicapped	2233 Fair St	95928	(916) 343-7994	x	x	x
Butte	Durham	Owner	Homerette Davis	Aldred, Inc	786 Oro-Chico Hwy	95938	(916) 342-4930		x	
Butte	Gridley	Recycling Coordinator	Joe Sherman	City Government	685 Kentucky St	95948	(916) 846-5695			
Butte	Oroville	Owner	Donald Davis	Aldred, Inc	2558 S 5th Ave	95965	(916) 342-4930		x	
Butte	Oroville	Recycling Coord/Fire Chief	Dean Hill	City Government	2055 Lincoln St	95966	(916) 538-2480		x	
Butte	Oroville	Recycling Coordinator	Eric Miller	County Government	#7 Counter Center Dr	95965	(916) 538-7681	x	x	
Butte	Oroville	Owner	Joseph Verni	Joe Verni Recycling	4980 Lincoln Blvd	95966	(916) 534-7402			x

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Butte	Oroville	President	Shane Scott	Nor-Cal Recyclers	1855 Kusel Rd	95965	(916) 532-0262			x
Butte	Oroville	General Manager	Ray Scocci	Oroville Solid Waste Disposal, Inc	2720 S 5th Ave	95965	(916) 533-5868	x	x	x
Butte	Oroville	Vice-President	Homerette Davis	Steel Mill Recyclers Aldred, Inc	1585 Parker Ave	95965	(916) 342-4930		x	
Butte	Paradise	Recycling Coordinator	Al McGreehan	City Government	5555 Skyway	95969	(619) 872-6284	x		
Butte	Paradise	Recycling Coordinator	William Mannel	Paradise Solid Waste Systems	951 American Way	95969	(916) 877-2777	x	x	
Calaveras	San Andreas	Recycling Coordinator	Robert Packinger	County Government	891 Mountain Ranch Rd	95249	(209) 754-6403	x	x	
Calaveras	San Andreas	Owner	Gerald Andress	Smart Recycling	197 E Charles St	95249	(209) 785-2659	x	x	
Colusa	Colusa	Recycling Coordinator	Millard Totman	City Government	P O Box 1063	95932	(916) 458-4941	x		
Colusa	Colusa	Owners	William & Barbara Bryant	Colusa Recycling	55 Clay St	95932	(916) 458-4131			x
Colusa	Colusa	Recycling Coordinator	Janet Krug	County Government	1215 Market St	95932	(916) 458-5186	x		
Colusa	Williams	Recycling Coordinator	Bob Garr	City Government	P O Box 310	95987	(916) 473-5389			
Colusa	Williams	Owner	Cole English	English & Sons- Steel & Hardware	1760 E St	95987	(916) 473-2085		x	x
Contra Costa	Antioch	Recycling Coordinator	Ron Bendorff	City Government	P O Box 130	94509	(510) 779-7037		x	
Contra Costa	Antioch	Owner	Robert Lister	Antioch Recycling Center	1305 Sunset Dr	94509	(510) 778-3554			
Contra Costa	Brentwood	Project Manager	Charles Vosicka	City Government	708 3rd St	94513	(510) 634-6920			
Contra Costa	Clayton	Recycling Coordinator	Randel Hatch	City Government	1005 Oak St	94517	(510) 672-6690	x	x	
Contra Costa	Clayton	Assistant Planner	Wendy Belvedere	City Government	1005 Oak St	94517	(510) 672-6690	x	x	
Contra Costa	Concord	General Manager	Arturo Yamfc	Cash for Cans	1818 F Arnold Industrial Pl	94520	(510) 686-5554		x	
Contra Costa	Concord	Recycling Coordinator	Peter Dragovich	City Government	1950 Parkside Dr	94519	(510) 671-3152	x		
Contra Costa	Concord	President	Thomas Bates	MLC Recycling, Inc	2352 Bates Ave	94520	(510) 676-1886	x	x	x
Contra Costa	Concord	Manager	Phil Garaventa	Mt Diablo Paper Stock & Recycling	4050 Millard Dr	94520	(510) 682-9113			
Contra Costa	Danville	Recycling Coordinator	Patricia Athenour	City Government	510 La Gonda Way	94526	(510) 820-6337			
Contra Costa	El Cerrito	Recycling Coordinator	Susan Katchee	City Government	10890 San Pablo Ave	94530	(510) 215-4350	x	x	
Contra Costa	Hercules	Recycling Coordinator	Marilyn Leuck	City Government	111 Civic Dr	94547	(510) 799-8215	x	x	
Contra Costa	Lafayette	Recycling Coordinator	Karen Stein	City Government	3675 Mt Diablo, Ste 210	94549	(510) 284-1968			
Contra Costa	Martinez	Recycling Coordinator	Elain Jacobs	Central Contra Costa Sanitary District	5019 Imhoff Pl	94553	(510) 229-7395			
Contra Costa	Martinez	Recycling Coordinator	Vacant	City Government	525 Henrietta St	94553	(510) 372-3512	x	x	
Contra Costa	Martinez	Recycling Coordinator	Vacant	County Government	651 Pine St	94553	(510) 646-4196	x	x	
Contra Costa	Moraga	Assnt Town Mgr/Finance	Michael Medvedoff	City Government	P O Box 188	94556	(510) 376-2590			
Contra Costa	Orinda	Recycling Coordinator	Kelly Sills	City Government	26 Orinda Way	94563	(510) 254-6130	x	x	
Contra Costa	Pacheco	President	Boyd Olney Jr	Pleasant Hill Bayshore Disposal, Inc	441 N Buchanan Circle	94533	(510) 228-6888			
Contra Costa	Pacheco	District Manager	Brett Frazier	Pleasant Hill Bayshore Disposal, Inc	441 N Buchanan Circle	94553	(510) 685-4716	x	x	x
Contra Costa	Pinole	Recycling Coordinator	Donald Bradley	City Government	2131 Pear St	94564	(510) 724-9000	x	x	
Contra Costa	Pittsburg	City Manager Asst	Dave Hobbs	City Government	2020 Railroad Ave	94565	(510) 439-4850	x	x	
Contra Costa	Pittsburg	Recycling Coordinator	Kevin Carunchio	City Government	2020 Railroad Ave	94565	(510) 439-4850	x	x	
Contra Costa	Pittsburg	Executive Director	Charles Drolette	Many Hands, Inc	1231 Loveridge Rd	94565	(510) 432-1171		x	x
Contra Costa	Pleasant Hill	Recycling Coordinator	Leanne Nelson	City Government	100 Gregory Ln	94523	(510) 671-5270	x	x	
Contra Costa	Richmond	Recycling Coordinator	Emmanuel Jome	City Government	P O Box 4046	94804	(510) 620-6500	x	x	
Contra Costa	Richmond	Owner	Jack Fass	Fass Metal Co	818 W Gertrude Ave	94801	(510) 234-6222			
Contra Costa	Richmond	Waste Hauler	Joel Corona	Richmond Sanitary Service, Inc	3260 Blume Dr, Ste 250	94806	(510) 262-1663	x	x	
Contra Costa	Richmond	Operations Manager	Peter Nuti	Richmond Sanitary Service, Inc	2501 Garden Tract Rd	94801	(510) 235-2212	x	x	x
Contra Costa	Richmond	Plant Manager	Jimmie Buckland	Sims Metal USA Corp	600 S 4th St	94804	(510) 236-0606		x	x
Contra Costa	Rodeo	Owner	James Taylor	Pinole Rodeo Auto Wrecking	700 Parker Ave	94572	(510) 758-2095			
Contra Costa	San Pablo	Recycling Coordinator	Craig Monroe	City Government	No 1 Alvarado Square	94806	(510) 215-3087			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Contra Costa	San Ramon	Recycling Coordinator	April Gray	City Government	2222 Camino Ramon	94583	(510) 275-2261	x	x	
Contra Costa	Walnut Creek	Recycling Coordinator	Harriette Heibel	Valley Waste Management	1990 North California, Ste 20	94596	(510) 988-8237	x	x	
Contra Costa	Walnut Creek	Recycling Coordinator	Janet Schneider	City Government	1666 North Main	94596	(510) 256-3503			
Contra Costa	Walnut Creek	General Manager	Ron Proto	Valley Waste Management (SAWOCO), Inc	P O Box 4007	94596	(510) 935-8900	x	x	x
Del Norte	Crescent City	Recycling Contact/Civil Engineer	Robin Sanders	City Government	377 J St	95531	(707) 464-9506			
Del Norte	Crescent City	Solid Waste Admin Asst	Ellen Brown	County Government	700 5th St	95531	(707) 464-7255		x	
Del Norte	Crescent City	Workshop Supervisor	Tom Hansell	Del Norte Assoc for Dev Services	1301 Northcrest Dr	95531	(707) 464-8338			
Del Norte	Crescent City	President/Owner	Jordan Kekry	JuLindra Inc Recycling	1039 Harrold St	95531	(707) 464-3912	x	x	x
El Dorado	Diamond Springs	General Manager	Herbert Lloyd	Nor Cal Beverage Co, Inc	6230 Enterprise Dr	95619	(916) 626-0755	x	x	
El Dorado	Georgetown	Partner	John MacMahon	Divide Resource Recycling	Greenwood Rd & Hwy 193	95634	(916) 333-1310			
El Dorado	Georgetown	Co-Owner	Dean Sprague	Gold Country Recycling	6273 Hwy 193	95634	(916) 333-2760			
El Dorado	Placerville	City Engineer/ Pub Wrks Dir	Michael Foster	City Government	487 Main St	95667	(916) 642-5230	x	x	
El Dorado	Placerville	City Admin/ Recycling Coord	Bob Semple	City Government	487 Main St	95667	(916) 642-5200	x	x	
El Dorado	Placerville	Recycling Coordinator	Becky Post	County Government	2550 Fairlane Ct	95667	(916) 621-5307	x	x	
El Dorado	Placerville	Owner	Charles Ellis	E M Recycling	4040 Stage Ct, Ste A-2	95667	(916) 621-2027			
El Dorado	South Lake Tahoe	Recycling Coordinator	Sue Schlerf	City Government	1052 Tata Ln	96150	(916) 573-2040	x		
El Dorado	South Lake Tahoe	Branch Manager	Herbert Loyd	Nor Cal Beverage Co, Inc	1044 Industrial Ave	95731	(916) 541-3555	x	x	
El Dorado	South Lake Tahoe	General Manager	Jeffery Tillman	South Tahoe Refuse Co, Inc	2140 Ruth Ave	95705	(916) 541-5105	x	x	x
Fresno	Auberry	Owner	Carman Tracy	All-Ways Recycling	32237 Auberry Rd	93602	(209) 855-6529	x	x	x
Fresno	Biola	General Manager	William Bearden	Biola Recycling	12010 West H St	93606	(209) 843-2810	x	x	x
Fresno	Caruthers	Owner	John Bairos	Caruthers Recycling	13401 S Marsh	93609	(209) 864-8434			
Fresno	Clovis	Recycling Coordinator	Ron Wheeler	City Government	3300 Lind Ave	93612	(209) 297-2375			
Fresno	Clovis	President/ Vice President	Frank Tamburrino/ Tyce Ferguson	Clovis Recycling Center	710 Jefferson St	93612	(209) 299-7485	x		x
Fresno	Coalinga	Recycling Coordinator	Rene Ramirez	City Government	155 W Durrn	93210	(209) 935-1533	x		
Fresno	Coalinga	Owner	Joe Duval	Duval Recycling Centers	604 E Polk St	93210	(209) 935-3772	x		x
Fresno	Fowler	Recycling Coordinator	Helen Harding	City Government	P O Box 99	93625	(209) 834-3113		x	
Fresno	Fresno	Owner	Kimberly Stefani	Albino Recycling Co	2040 W Yale	93705	(209) 233-9181			x
Fresno	Fresno	President	John Bairos	Bairos Recycling, Inc	2788 S Orange Ave	93725	(209) 233-5940	x		
Fresno	Fresno	Operations Manager	Roy Kloose	Browning-Ferris Industries of CA	5501 N Golden State Blvd	93722	(209) 275-1551	x	x	x
Fresno	Fresno	Owner	Fred Tosi	Bruno's Recycling & Metals	3211 Golden State Blvd	93725	(209) 233-6543			x
Fresno	Fresno	President	Peter Koretoff	Cen Cal Recycling	2042 S Fruit Ave	93706	(209) 268-7229			
Fresno	Fresno	Owner	Gilbert Koretoff	Central Valley Recycling	2042 S Fruit Ave	93706	(209) 268-7229			
Fresno	Fresno	Manager	Michael Bukilica	Container Corporation of America	24 S Thorne Ave	93706	(209) 441-1166		x	x
Fresno	Fresno	Waste Management Coordinator	Mary Pranzo	County Government	2220 Tulare St, 6th Fl	93721	(209) 453-4455	x	x	
Fresno	Fresno	Recycling Coordinator	Marion Miller	County Government	2220 Tulare St, 6th Fl	93721	(209) 453-4450	x	x	
Fresno	Fresno	President	Edward Donaghy	D & M Farms, Inc	4455 E Church	93725	(209) 486-0901			
Fresno	Fresno	President	James Norris	Fresno United Metal & Recycling	1701 S Orange	93702	(209) 264-6303			x
Fresno	Fresno	Owner	Matthew West	Gateway Recycling	1941 E Niles	93720	(209) 323-1777			
Fresno	Fresno	Vice President	Randall Stoehr	Heppner Iron & Metal Co	3489 S Chestnut	93725	(209) 237-4677	x		
Fresno	Fresno	General Manager	Terry Glutcoff	Levi's Iron & Metal, Inc	2727 S Chestnut Ave	93725	(209) 233-3211	x		x
Fresno	Fresno	Owner	Marcus Barile	ReOyCo Inc Recycling Center of Fresno	4579 E Lewis	93702	(209) 255-5690	x	x	x
Fresno	Fresno	General Manager	Marcus Barile	Skee's Recycling, Inc	4538 E Thomas Ave	93702	(209) 255-5690	x	x	x
Fresno	Fresno	President	Stanley Greenberg	Western Metal Co	2910 S Cherry Ave	93706	(209) 264-6246			
Fresno	Huron	Recycling Coordinator	Matt Bumgardner	City Government	P O Box 339	93234	(209) 945-2241			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Fresno	Kerman	Recycling Coordinator	Ken Moore	City Government	850 S Madera Ave	93630	(209) 846-9384	x	x	
Fresno	Kerman	Owner	Louis Lopez	Dreams Recycling	15057 Whitesbridge	93630	(209) 268-8335			
Fresno	Kingsburg	Waste Prevention Coordinator	Jeff Monaco	City Government	1200 Kern St	93631	(209) 897-1066	x	x	
Fresno	Kingsburg	President	Stan Barros	Kingsburg Disposal Service, Inc	1535 Ave 392	93631	(209) 897-5217			
Fresno	Mendota	Owner	Aurelio Olvera	Aurelio Olvera	931 N Derrick	93640	(209) 655-4469			
Fresno	Mendota	City Manager	Dan Ayala	City Government	643 Quince St	93640	(209) 655-3291			
Fresno	Orange Cove	Owner	Diane Valencia	Orange Cove Recycling	230 Park Blvd	93646	(209) 626-7046			
Fresno	Orosi	Owner	Daryll Gill	Daryll Gill Recycling, Inc	12829 Miller Ave	93647	(209) 896-8528	x	x	
Fresno	Parlier	Recycling Coordinator	Shun Patlan	City Government	1100 E Parlier Ave	93648	(209) 646-3545		x	
Fresno	Reedley	CEO	David Gill	Cash Recycling, Inc	505 N Reed St	93654	(209) 637-1957	x		x
Fresno	Reedley	Community Development Director	Mike Olmos	City Government	845 G St	93654	(209) 637-4222			
Fresno	Reedley	President	Alfred Zamundio	Tri County Recycling, Inc	10021 S Englehart	93654	(209) 638-5852			
Fresno	Riverdale	Owner	Miguel DeLatorre	C & M Co	21282 S Marks Ave	93656	(209) 269-0798			
Fresno	San Joaquin	Recycling Coordinator	Gene Long	City Government	21900 Colorado St	93660	(209) 693-4311		x	
Fresno	Sanger	Recycling Coordinator	Ed Larabee	City Government	1700 7th St	93657	(209) 875-6513		x	
Fresno	Selma	Recycling Coordinator	Ginger Kindlund	City Government	1814 Tucker St	93662	(209) 896-1064	x	x	
Fresno	Selma	Owner	Richard Garcia	Selma Recycling Center	2660 Floral Ave	93662	(209) 891-0978		x	x
Glenn	Orland	Recycling Coordinator	Al Calonicoa	City Government	815 4th St	95963	(916) 865-4741			
Glenn	Orland	Supervisor	Bob Thomas	North Valley Services	Route 5 Box 5475 County Rd 200	95963	(916) 865-5631			
Glenn	Orland	Program Director	Diane Davis	North Valley Services	Route 5 Box 5475 County Rd 200	95963	(916) 865-5631	x	x	x
Glenn	Orland	Co Owner	Lloyd Newham	Westside Recycling & Wood Products	Star Rt 3L	95963	(916) 527-4317			
Glenn	Willows	Recycling Coordinator	Scott Rolls	County Government	777 N Colusa St	95988	(916) 934-6530	x	x	
Glenn	Willows	Public Works Director	John Joyce	County Government	777 N Colusa St	95988	(916) 934-6530		x	
Glenn	Willows	Solid Waste Coordinator	Dave Donnan	Glenn County Disposal Service, Inc	123 S Butte St	95988	(916) 934-4723	x	x	x
Glenn	Willows	Owners	J R Knowles/ Roy Seiler	Willows Kiwanis Club	126 W Sycamore St	95988	(916) 934-2137			
Glenn	Willows	Recycling Coordinator	Dave Donnan	Willows Recycling	123 S Butte	95988	(916) 934-4723	x	x	x
Humboldt	Arcata	Executive Director	Kathleen Krebs	Arcata Community Recycling Center, Inc	1380 Ninth St	95521	(707) 822-4542			
Humboldt	Arcata	Owner	Douglas Connor	Arcata Scrap & Salvage	192 South G St	95521	(707) 822-4881			
Humboldt	Arcata	President	William Johnson	Big Oil & Tire	1497 Glendale Dr	95521	(707) 668-5602			
Humboldt	Arcata	Recycling Coordinator	Steve Tyler	City Government	736 F St	95521	(707) 822-5957	x	x	
Humboldt	Arcata	Executive Director	Carl Oschner	Redwoods United, Inc	1117 Samona Blvd	95521	(707) 822-7070			x
Humboldt	Blue Lake	City Clerk	Karen Nessler	City Government	P O Box 458	95525	(707) 668-5655		x	
Humboldt	Blue Lake	Recycling Coordinator	Sherman Schapiro	City Government	P O Box 458	95525	(707) 668-5655	x	x	
Humboldt	Eureka	Owner	Troy Wisdom	Cash Oil	1679 Myrtle Ave	95501	(707) 445-3940			
Humboldt	Eureka	Vice President/ General Manager	Brian Sollom	City Garbage Co	949 W Hawthorne St	95501	(707) 442-5711			
Humboldt	Eureka	Recycling Coordinator	David Hull	City Government	531 K St	95501	(707) 443-8691	x	x	
Humboldt	Eureka	Recycling Coordinator	Liz Citrino	County Government	100 H St, Ste 100	95501	(707) 441-2005	x	x	
Humboldt	Eureka	President	Landon George	G & R Metals, Inc	26 W 4th St	95501	(707) 442-1765			x
Humboldt	Eureka	Owner	Wayne Hooper	Green Valley Recycling	Container Site, Hwy 36	95551	(707) 442-8233			
Humboldt	Ferndale	Recycling Coordinator	Frank Mathis	City Government	P O Box 236	95536	(707) 786-4224		x	
Humboldt	Fortuna	Recycling Coordinator	Thomas Cocke	City Government	P O Box 545	95540	(707) 725-3300	x	x	
Humboldt	Fortuna	Recycling Coordinator	Tim Jordan	Eel River Disposal Co, Inc	103 S 12 St	95540	(707) 725-5156	x	x	x
Humboldt	McKinleyville	President	Greg Cain	Humboldt Sanitation Co, Inc	2585 Central Ave	95521	(707) 839-3285	x	x	x
Humboldt	Redway	Executive Director	Paul Fish III	Southern Humboldt Recycling Center, Inc	Eel River Conservation Camp Rd	95560	(707) 923-3944			

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Humboldt	Rio Dell	Recycling Coordinator	Earl Wilson	City Government	675 Wildwood Ave	95562	(707) 764-3532	x		
Humboldt	Willow Creek	Owner/Operator	Donald Scarborough	Katy Recycling	39500 Hwy 299	95573	(916) 629-2333			x
Imperial	Brawley	Public Works Director	Vacant	City Government	180 Southwestern Ave	92227	(619) 344-5800			
Imperial	Brawley	Owner	Raymond Babb	I V Recycling, Inc	735 S 5th St	92227	(619) 344-7120	x		x
Imperial	Brawley	Partner	Lonnie Schaffer	Pals Repair & Recycling	1686 E Main St	92227	(619) 344-4470			
Imperial	Calexico	Owner	Jose Quiroz	Calexico Metals Recollectors	1700 Williams St, Ste W	92231	(619) 357-9095			
Imperial	Calexico	Owner/Manager	Raymond Babb	IV Recycling Centers	408 Third St	92231	(619) 344-4450	x		x
Imperial	Calipatria	Recycling Coordinator	Ray Platero	City Government	104 East Robinson Rd	92251	(619) 355-2000	x		
Imperial	Calipatria	Owner	Steven Basurto	Steven's Recycling	135 Main St	92233	(619) 348-5315			
Imperial	Desert Shores	Quartermaster	Harold Gledhill	Veterans of Foreign Wars West Shores Post 3251	191 Desert Shores Dr	92274	(619) 395-5266			
Imperial	El Centro	President	Richard Alford	Alford Recycling Center	21 E Evan Hewes Hwy	92243	(619) 353-3920	x	x	x
Imperial	El Centro	Associate Director	Fernando Esperanza	ARC Industries	10 E Evan Hewes Hwy	92243	(619) 352-2236	x	x	x
Imperial	El Centro	Recycling Coordinator	Sandra Labanog	City Government	502 East Main St	92243	(619) 352-2236	x	x	
Imperial	El Centro	Recycling Coordinator	Harry Orfanos	County Government	155 S 11th St	92243	(619) 339-4462	x	x	
Imperial	El Centro	Owner	Joe Marlin	Marlin International Recycling	241 E Evan Hewes Hwy	92243	(619) 353-0944			
Imperial	El Centro	Owner	Mark Rautbort	Raubort Recycling	2087 N Hwy 111	92243	(619) 352-0993			x
Imperial	Holtville	Recycling Coordinator	Robert Weaver	City Government	121 W 5th St	92250	(619) 356-2912			
Imperial	Imperial	Public Works Director	Ray Mauricio	City Government	400 So Imperial Ave	92251	(619) 355-1152	x	x	
Imperial	Imperial	Owner	Thomas Claypool	Claypool Distributing Co	102 Claypool Dr	92251	(619) 355-1166			
Imperial	Niland	Owner	Mel Holcomb	Niland General Store	125 Niland Ave	92257	(619) 359-0543			x
Imperial	Westmorland	Recycling Coordinator	Cathie Maness	City Government	P O Box 699	92281	(619) 344-3411	x		
Imperial	Calexico	Recycling Coordinator	Carlos Romero	City Government	408 Heber Ave	92231	(619) 768-2100	x		
Inyo	Bishop	Recycling Coordinator	Chuck Hamilton	City Government	P O Box 606	93514	(619) 873-5577	x	x	
Inyo	Bishop	Owner	Earl Brown	Earl V Brown Maintenance & Supply	219 Wye Rd	93514	(619) 872-6911	x		x
Inyo	Bishop	President	Troy Oney	Manor Market	3100 W Line St	93514	(619) 873-3106			
Inyo	Independence	Recycling Coordinator	Cheryl Hawkins	County Government	P O Box 427	93526	(619) 878-2411	x	x	
Inyo	Lone Pine	Owner	Terald Goodwin	Goodwin's Recycling	Rt 1 851 Goodwin Rd	93545	(619) 876-5778	x		x
Kern	Arvin	Recycling Coordinator	Howard Phillips	City Government	P O Box 548	93203	(805) 854-5881	x	x	
Kern	Arvin	City Clerk	Gola Manasco	City Government	P O Box 548	93203	(805) 854-5881	x	x	
Kern	Bakersfield	Owner	Husam Haddad	AAA Recycling	2825 Weedpatch Hwy	93307	(805) 363-7307			
Kern	Bakersfield	Owner	James Norris	American Collection & Storage	321 Ming Ave	93307	(209) 264-6303			
Kern	Bakersfield	Partner	John McKearnan	American Collection & Storage	321 Ming Ave	93307	(805) 397-5197			
Kern	Bakersfield	Executive Director	Ronald Sick	Bakersfield Assoc for Retarded Citizens	2240 S Union Ave	93307	(805) 834-2272	x	x	x
Kern	Bakersfield	Owner	William Davis	Bakersfield Recycling Co	6701 Niles St	93306	(805) 836-1567			
Kern	Bakersfield	Recycling Coordinator	Greg Sanders	City Government	4101 Truxton Ave	93301	(805) 326-3114			
Kern	Bakersfield	Recycling Coordinator	Nancy Ewert	County Government	2700 M St, Ste 500	93301	(805) 861-2159	x	x	
Kern	Bakersfield	Vice President	William Davis	Davis & Black Enterprises, Inc	661 Roberts Ln	93308	(805) 836-1567		x	
Kern	Bakersfield	Owner	Sung Ho Lee	Evergreen Recycling	2101 White Ln	93384	(805) 834-2363	x	x	x
Kern	Bakersfield	President	Takehisa Miyake	Golden State Metals, Inc	2000 E Brundage Ln	93307	(805) 327-3559			x
Kern	Bakersfield	President	Philip Sacco	K C Sierra Ltd	1620 E Brundage Ln	93307	(805) 327-7073			
Kern	Bakersfield	President	Ralph Klein	Midway Recycling	7200 Downing Ave	93308	(805) 589-5712	x		x
Kern	Bakersfield	President	Richard Whitlock	Rick's Recycling, Inc	730 California Ave	93301	(805) 633-5040	x		x
Kern	Bakersfield	Manager	Gary Sager	Smurf It	2710 O St	93301	(805) 327-3841	x	x	x
Kern	Bakersfield	President	Elvey Varner	Varner Bros, Inc	1808 Roberts Ln	93308	(805) 399-2944			

173 A

174

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Kern	Boron	Owner	El Dora Irving	Irving's	12025 Gardner St	93596	(619) 762-6773			
Kern	California City	Recycling Coordinator	Ken Redford	City Government	21000 Hacienda Blvd	93505	(619) 373-8661			
Kern	California City	President/ Partner of BCP Assoc	Jerry Palmer/ Paul Benz	Tehachapi Recycling, Inc	19201 Neuralia Rd	93505	(619) 373-8777	x	x	x
Kern	Delano	Recycling Coordinator	Howard Young	City Government	725 S Lexington St	93215	(805) 721-3350	x	x	
Kern	Delano	Owner	Stephen Meeks	S W M Enterprises, Inc	1029 High St	93215	(805) 725-7643	x		x
Kern	Frazier Park	Owner	Douglas Owens	Happy Planet Recycling & Redemption Center	632 Laguna Trail	93225	(805) 245-3245		x	
Kern	Maricopa	City Clerk	Susan Tull	City Government	P O Box 548	93252-0548	(805) 769-8279			
Kern	McFarland	Recycling Coordinator	Abbigail Bryden	City Government	P O Box 1488	93250	(805) 792-3091			
Kern	McFarland	Owner	Raul Inzarry	R & F Disposal Service Co	613 S Frontage Rd	93250	(805) 792-3937			
Kern	Mojave	Owner	Dianne Hinnerichs	D & H Recycling	17100 Hwy 14, Star Rte 2	93501	(805) 824-2398		x	x
Kern	Ridgecrest	Owner	Nona Cate	Cate Recycling Center	1113 Graaf	93555	(619) 446-4441			
Kern	Ridgecrest	Recycling Coordinator	Lois Landrum	City Government	100 W California Ave	93555	(619) 371-3721	x	x	
Kern	Ridgecrest	Owner	Martin Mosley Jr	Pearsons Recycling	1536A N Mahan St	93555	(619) 446-6106			x
Kern	Shafter	Recycling Coordinator	John Guinn	City Government	320 James St	93263	(805) 746-6361	x	x	
Kern	Shafter	Assistant Engineer	Brett Dawson	City Government	320 James St	93263	(805) 746-6361	x	x	
Kern	Taft	Recycling Coordinator	Bill Kytola	City Government	209 E Kern St	93268	(805) 763-3144	x	x	
Kern	Taft	Owner	Juanita Messenger	Rose Street Recycling	327 Rose St	93268	(805) 763-1487			x
Kern	Taft	Owner	Bob Hampton	Westside Waste Management Co, Inc	525 Gardner Filed Rd	93268	(805) 763-5135			
Kern	Tehachapi	President/ Partner of BCP Assoc	Paul Benz/ Jerry Palmer	Benz Sanitation, Inc	416 N Dennison Rd	93561	(805) 822-5273	x	x	x
Kern	Tehachapi	Recycling Coordinator	Tex Shehan	City Government	P O Box 668	93561	(805) 822-2233	x	x	
Kern	Tehachapi	Owner	Maurice Gubler	The Recycling Center	355 Enterprise Way, Ste D	93561	(805) 822-4555	x		x
Kern	Wasco	Owner	Roy Chlah	Towne & Country Liquor	1209 Hwy 46	93280	(805) 758-5664			
Kern	Wasco	Owner	Billy Hokit	Triple H Recycling	541 Hwy 46	93280	(805) 758-2167	x	x	x
Kern	Wasco	City Manager	John Hendrickson	City Government	P O Box 159	93280	(805) 758-3003			
Kings	Avenal	Public Works Director	John Demski	City Government	919 Skyline Blvd	93204	(209) 386-5766	x	x	
Kings	Avenal	Owner	Phillip Pitts	Phil Pitts Westside Recycling	161 E Kings St	93204	(209) 386-0317			
Kings	Corcoran	Recycling Coordinator	Dick Mangail	City Government	1033 Chittenden Ave	93212	(209) 992-2151	x	x	
Kings	Hanford	Recycling Coordinator	Robert Sisneroz	City Government	900 South 10th St	93230	(209) 585-2577	x	x	
Kings	Hanford	Records & Microfilm Mgr	Terry Hall	County Government	640 North Campus Dr	92320	(209) 582-3211	x		
Kings	Hanford	Owner	Gregory Ollivier	G & T Recycling	10833 Hanford Armona Rd	93230	(209) 924-8678			
Kings	Hanford	Owner	Harold Green	J & H Metal Co	9195 E Lacey Blvd	93230	(209) 582-3011	x		x
Kings	Hanford	Executive Director	Donald Larson	Kings Rehabilitation Center, Inc	490 Hanford-Armona Rd	93230	(209) 582-9234			
Kings	Huron	Owner	Ramiro Ramirez	R & E Recycling	16932 10th St	93234	(209) 924-5807			
Kings	Lemoore	Owner	Clarence Payne	Family Recycling Center	1156 N Lemoore Ave	93245	(209) 924-9681	x		x
Kings	Lemoore	Owner	Willard Rodarmel	Lemoore Recycling	345 N 19th Ave	93245	(209) 924-8805	x	x	x
Lake	Clearlake	City Administrator	Daniel Obermeyer	City Government	P O Box 2440	95422	(707) 994-8201		x	
Lake	Clearlake	Owner	Eugene Schwartz	People's Recycle Center	14624 Lakeshore Dr	95422	(707) 994-3548			
Lake	Clearlake	President/Vice President	Marvin Pestoni/Bob Pestoni	South Lake Refuse Co	18th and Old Hwy 53	95422	(707) 994-6613			
Lake	Lakeport	Solid Waste Manager	Martin Strauss	County Government	255 N Forbes St	95433	(707) 263-2298	x		
Lake	Lakeport	Recycling Coordinator	John Moore	County Government	255 N Forbes St	95433	(707) 263-2577	x	x	
Lake	Lakeport	General Manager	Bruce McCracken	Timberline Disposal Co, Inc	230 Soda Bay Rd	95453	(707) 263-7682	x	x	x
Lake	Lowerlake	Owners	Woody & Kathleen Worden	Woodys Recycling Center	9192 Stagecoach Ln	95457	(707) 994-1451			x
Lassen	Susanville	Recycling Coordinator	Martin Diehl	County Government	707 Nevada St	96130	(916) 257-8311	x	x	
Lassen	Susanville	Solid Waste Manager	Katie Dockery	County Government	707 Nevada St	96130	(916) 257-2451	x	x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Lassen	Susanville	Vice-President	Gregory Bouchard	D & L Distributing, Inc	795 Alexander Ave	96130	(916) 257-4048			
Lassen	Susanville	Owner	Shirley Jackson	Susanville Recycling Center	474-215 Big Sky Blvd	96130	(916) 257-9136			x
Lassen	Westwood	Owner	George Young	George Youngs Market	323 Brick St	96137	(916) 256-3251			x
Los Angeles	Agoura Hills	Recycling Coordinator	Michael Kamino	City Government	30101 Agoura Ct, #102	91301	(818) 597-7321		x	
Los Angeles	Agoura Hills	Recycling Coordinator	Andrea Ralston	Los Virgines Disposal	P O Box 308	91301	(818) 889-9400			
Los Angeles	Alhambra	Recycling Coordinator	Joanne Bradvica	City Government	111 S First St	91801	(818) 458-5217	x	x	
Los Angeles	Alhambra	Recycling Coordinator	Mike Mohajer	County Government	P O Box 1460	91802-1402	(818) 458-3502	x	x	
Los Angeles	Alhambra	Environmental Affairs Coord	Kathi Delegal	County Government	900 S Fremont Ave	91803-1331	(818) 458-3563	x	x	
Los Angeles	Alhambra	Owner	Oscar Sagastume	OS-Cans	2628 S Stranahan Dr	91803	(818) 284-7991			x
Los Angeles	Altadena	Owner	Linda Orozco	LAAJOP Recycling USA	2193 N Fair Oaks Ave	91001	(818) 798-8981			
Los Angeles	Arcadia	City Manager	Alex McIntyre	City Government	240 W Huntington Dr	91007	(818) 574-5402			
Los Angeles	Artesia	Recycling Coordinator	Alisha Ley	City Government	18747 Clarkdale Ave	91701	(310) 865-6262			
Los Angeles	Artesia	Owner	Ronald Ektarian	Hi Waste Disposal Co	11718 Arkansas St	90701	(310) 865-8068		x	x
Los Angeles	Avalon	Recycling Coordinator	Pete Woolson	City Government	P O Box 707	90704	(310) 510-0220		x	
Los Angeles	Azusa	Owner	Mervin Luna	Azusa Steel Products	1168 W Gladstone	91702	(818) 334-7842	x		
Los Angeles	Azusa	President	Booken Hartunian	Azusa Waste Recyclers	1017 W Gladstone	91702	(818) 969-7908			
Los Angeles	Azusa	Recycling Coordinator	Ginny Dadain	City Government	213 E Foothill Blvd	91702	(818) 334-5125			
Los Angeles	Azusa	Owners	Jose & Cristina Ibarrra	Ibarras Recycling	424 W Foothill Blvd	91702	(818) 960-9114			
Los Angeles	Baldwin Park	Vice President	Joe Pearson	Cedarwood Young Co, Inc	14618 Arrow Hwy	91706	(818) 962-4047	x		x
Los Angeles	Baldwin Park	Recycling Coordinator	Ellen Volmert	City Government	14403 E Pacific Ave	91706	(818) 960-4011	x	x	
Los Angeles	Baldwin Park	Recycling Coordinator	Enn Lagerberg	Waste Management	13940 East Live Oaks Ave	91706	(714) 599-1274			
Los Angeles	Bell	Recycling Coordinator	Sharon Folsom	City Government	6330 Pine Ave	90201	(213) 588-6211	x	x	
Los Angeles	Bell Gardens	Owner	Mike Berefoff	Bell Gardens Recycling Station	5951 Clara St.	90201	(310) 928-6547	x		x
Los Angeles	Bell Gardens	Recycling Coordinator	Steve Steinbrecher	City Government	8327 Garfield	90201	(310) 806-7770			
Los Angeles	Bellflower	Recycling Coordinator	Richard Sturt	Bellflower Recycling Center, Inc	17326 S Woodruff Ave	90706	(619) 328-3761	x		x
Los Angeles	Bellflower	Recycling Coordinator	Steve Hageman	City Government	16600 Civic Center Dr	90706	(310) 804-1424	x	x	
Los Angeles	Bellflower	Owner	Joseph Remis	Steel Exchange Inc	15220 S Lakewood Blvd	90706	(310) 537-8900			
Los Angeles	Beverly Hills	Recycling Coordinator	Norman Berezowsky	City Government	9298 W 3rd St	90210	(310) 285-2465	x	x	
Los Angeles	Beverly Hills	Solid Waste Superintendent	Joe Delaney	City Government	9298 W 3rd St	90210	(310) 285-2464	x	x	
Los Angeles	Bradbury	Recycling Coordinator	Dolli Vollaire	City Government	600 Winston Ave	91010	(818) 358-3218			
Los Angeles	Bradbury	Recycling Coordinator	Susanne O'Brien	City Government	600 Winston Ave	91010	(818) 358-3218	x	x	
Los Angeles	Burbank	Owner	Albeto Caballero	Airport Recycling	7509 San Fernando Rd	91505	(818) 980-4884			
Los Angeles	Burbank	Solid Waste Manager	Sylvia Glazer	City Government	P O Box 6459	91510	(818) 953-9524	x	x	
Los Angeles	Burbank	Recycling Coordinator	Steve Maggi	City Government	P O Box 6459	91510	(818) 953-8741	x	x	
Los Angeles	Burbank	Recycling Compost Specialist	Hope McAloon	City Government	P O Box 6459	91510	(818) 953-8745	x	x	
Los Angeles	Burbank	General Manager	Leonard Lang	Pacific Recycling Corp	500 S Flower St	91502	(818) 841-9700			x
Los Angeles	Calabasas	Recycling Coordinator	Kimberly Collins	City Government	26135 Mureau Rd	91302	(310) 456-2489	x	x	
Los Angeles	Canoga Park	Owner	Allen Amrani	Universal Recycling Center	20934 Sherman Way	91303	(818) 999-0044			x
Los Angeles	Carson	Assistant General Manager	Nora Peko	Carson Recycling, Inc	22500 S Alameda St	90810	(310) 835-9109	x		
Los Angeles	Carson	Recycling Coordinator	Robert Millard	City Government	P O Box 6234	90749	(310) 830-7600		x	
Los Angeles	Cerritos	Recycling Coordinator	Thomas Jefferson	City Government	P O Box 3130	90703	(310) 860-0311		x	
Los Angeles	Chatsworth	Partners	Jerome Weiss/ Harvey Squire	Ace Recycling Center	21250 Nordhoff St	91311	(818) 882-1400			
Los Angeles	Chatsworth	President	Michael Bushman	Max Scrap Metals, Inc	21608 Nordhoff St	91311	(818) 709-4100	x	x	x
Los Angeles	Claremont	Recycling Coordinator	Mark Springer	City Government	215 Cornell Avenue	91711	(714) 399-5431	x	x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Commerce	Manager	Donald Cubison	California Crinc	5585 E 61st St	90040	(213) 887-6150			x
Los Angeles	Commerce	Environmental Svs Coord	Richard King	City Government	City Hall N Annex, 5550 Harbor St	90040	(213) 722-4805		x	
Los Angeles	Commerce	Recycling Coordinator	Doris Powell	City Government	City Hall N Annex, 5550 Harbor St	90040	(213) 722-4805		x	
Los Angeles	Compton	Recycling Coordinator	Regina Murphy	City Government	205 S Willowbrook Ave	90220	(310) 605-5505	x	x	
Los Angeles	Compton	Recycling Coordinator	Lili Darden	City Government	205 S Willowbrook Ave	90220	(310) 605-5505	x		
Los Angeles	Compton	Owner	Norm Sperling	Hub City Recycling	519 E Carlin	90222	(310) 537-0622		x	x
Los Angeles	Compton	Owner	Jorge Amador	J A Recycling	12417 S Alameda St	90222	(310) 608-2021			
Los Angeles	Compton	Owner	Ernest Ojeda	Las Palmas Recycling Center	512 E Pine St	90222	(310) 639-8302			
Los Angeles	Compton	President	Gabriel Garcia	Lu Mar Industrial Metals Co Ltd	2120 N Alameda St	90222	(213) 636-0156			
Los Angeles	Compton	Owner	Norman Rockmaker	Rockmaker Scrap Metal Corp	2195 S Santa Fe Ave	90221	(310) 639-4922		x	x
Los Angeles	Compton	President	Sadao Ishiguro	Summit Recycling, Inc	1601 S Anderson Ave	90220	(310) 604-3270			x
Los Angeles	Covina	Recycling Coordinator	Cary Kalscheur	City Government	125 E College St	91723	(818) 858-7250			
Los Angeles	Cudahy	Recycling Coordinator	Nicholas Mull	City Government	5220 Santa Ana St	90201	(213) 773-5143	x	x	
Los Angeles	Culver City	Recycling Coordinator	Ten Chalmers	City Government	9815 W Jefferson St	90232	(310) 280-5950	x	x	
Los Angeles	Diamond Bar	City Manager	Troy Butzlaff	City Government	21660 E Copley Dr	91765	(714) 860-2489	x	x	
Los Angeles	Downey	Recycling Coordinator	Karen Adnoff	Calsan, Inc	9821 Downey Norwalk Rd	90241	(310) 869-0901	x	x	x
Los Angeles	Downey	Recycling Coordinator	Kathy Simmons	City Government	11111 Brookshire Ave	90241	(310) 904-7103	x	x	
Los Angeles	Downey	Recycling Coordinator	John Svoboda	Western Pacific Pulp & Paper	9350 Hall Rd	90241	(310) 803-4401		x	
Los Angeles	Duarte	Recycling Coordinator	Steve Hauerwaas	City Government	1600 Huntington Dr	91010	(818) 357-7931	x	x	
Los Angeles	El Monte	Recycling Coordinator	Eladio Asencio	B & D Auto & Truck Salvage, Inc	12301 E Valley Blvd	91732	(818) 444-9530			
Los Angeles	El Monte	Recycling Coordinator	Robert Pinninger	City Government	11333 Valley Blvd	91731	(818) 580-2058		x	
Los Angeles	El Monte	Recycling Coordinator	Michael Stark	El Monte Iron & Metal Co, Inc	4441 Baldwin Ave	91731	(818) 444-2531	x		x
Los Angeles	El Monte	President	William Nazaroff Jr	Master Recycling Center, Inc	2852 Durfee Ave	91732	(818) 442-4242	x		x
Los Angeles	El Segundo	Recycling Coordinator	Ken Platnum	City Government	350 Main St	90245	(310) 322-4670	x		
Los Angeles	Gardena	Recycling Coordinator	Mark Purnell	Ambit Pacific Recycling, Inc	16222 S Figueroa St	90248	(310) 538-3798	x	x	x
Los Angeles	Gardena	Recycling Coordinator	Joe Koch	Gardena Recycling Center, Inc	1538 W 134th St	90249	(310) 516-8195	x		x
Los Angeles	Gardena	President	John Barile	South Bay Recycling, Inc	15001 S San Pedro St	90248	(310) 327-5778			
Los Angeles	Glendale	Recycling Coordinator	Rudy Umana	City Government	548 W Chevy Chase Dr	91204	(818) 548-3916	x	x	
Los Angeles	Glendale	Recycling Coordinator	Cheryl Hathaway	Westside Metal Recycling	6449 San Fernando Rd	91201	(213) 245-4362	x	x	
Los Angeles	Glendora	City Planner	Mike Yankovich	City Government	116 E Foothill Blvd	91740	(818) 914-8200	x	x	
Los Angeles	Hawaiian Gardens	Recycling Coordinator	Paul Hogan	City Government	21815 Pioneer Blvd	90716	(310) 420-2641		x	
Los Angeles	Hawthorne	Recycling Coordinator	Anita Kroeger	City Government	4455 W 126th St	90250	(310) 970-7939			
Los Angeles	Hermosa Beach	Recycling Coordinator	Carol Lockhart	City Government	1315 Valley Dr	93001	(310) 318-0236			
Los Angeles	Hidden Hills	Recycling Coordinator	Michael Harrison	City Government	24549 Long Valley Rd	91302	(818) 888-9281		x	
Los Angeles	Hollywood	Individual	Burt Rocklin	California Mobile Recycling Center	1611 N La Brea	90028	(310) 474-7342			
Los Angeles	Hollywood	Owner	Jess Underberg	Hollywood Recycling Center	1637 N La Brea Ave	90028	(213) 851-2343	x		x
Los Angeles	Huntington Park	President	Albert Hennes	Alco Metal & Supply	2100 E Florence Ave	90255	(213) 583-1781	x	x	x
Los Angeles	Huntington Park	Recycling Coordinator	Christina Kysella	City Government	6900 Vifielle St	90255	(213) 584-6274			
Los Angeles	Huntington Park	President	David Miller	Damele Metal Supply, Inc	8201 Santa Fe Ave	90255	(213) 587-6001	x	x	x
Los Angeles	Huntington Park	Owner	Melton Martinez	Martinez Recycling Center	3514 61st St	90255	(213) 560-9932			
Los Angeles	Industry	Recycling Coordinator	John Ballas	City Government	P O Box 3366	91744	(818) 333-2211			
Los Angeles	Industry	President/ Executive Director	Rouben/ Shawna Kandoian	Zakaroff Services	15045 Salt Lake Ave	91745	(818) 369-6100			
Los Angeles	Inglewood	Recycling Coordinator	Karen Gill	City Government	P O Box 6500	90301	(310) 412-5510	x	x	
Los Angeles	Irwindale	Regional Coordinator	Noelle Mewton	All West Recycling	545 E Live Oak Ave	91706	(818) 303-5335			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Irwindale	City Engineer	Carlos Alvarado	City Government	5050 Irwindale Ave	91706	(818) 962-3381	x	x	
Los Angeles	La Canada Flintridge	Recycling Coordinator	Mindy Jacobs	City Government	1327 Foothill Blvd	91011	(818) 790-8880	x	x	
Los Angeles	La Habra Heights	Recycling Coordinator	Margaret Collins	City Government	1245 N Hacienda Blvd	90631	(310) 694-8283	x	x	
Los Angeles	La Mirada	Recycling Coordinator	Deborah Fancett	City Government	13700 La Mira Blvd	90638	(310) 943-0131	x	x	
Los Angeles	La Mirada	Recycling Coordinator	Rose Stein	Star Scrap Metal Co, Inc	14372 E Firestone Blvd	90638	(310) 921-9442			
Los Angeles	La Puente	Recycling Coordinator	Donald Allen	City Government	15900 E Main St	91744	(818) 330-4511	x	x	
Los Angeles	La Puente	Recycling Coordinator	Debbie Uribes	La Puente Recycling Center	16023 Old Valley Blvd	91744	(818) 961-1106			
Los Angeles	La Verne	Staff	Jeannette Vagnozzi	City Government	3660 D St	91750	(714) 596-8726	x	x	
Los Angeles	La Verne	Finance Officer	Ron Clark	City Government	3660 D St	91750	(714) 596-8726	x	x	
Los Angeles	La Verne	Recycling Coordinator	Jeff Allved	City Government	3660 D St	91750	(714) 596-8726	x	x	
Los Angeles	Lakewood	Recycling Coordinator	June Anderson	City Government	5050 Clark Ave	90712	(310) 866-9771	x		
Los Angeles	Lakewood	President	James Kim	Good Earth Recycling Center	2005 Bixby Rd	90712	(310) 490-0072		x	
Los Angeles	Lancaster	President	Lawrence Carney	Carney, Inc	45565 N Division St	93534	(805) 945-4426			
Los Angeles	Lancaster	Recycling Coordinator	Ray Olson	City Government	44933 North Fern Ave	93534	(805) 723-6040	x	x	
Los Angeles	Lancaster	General Manager	Douglas Corcoran	Lancaster Landfill	600 East Ave	93535	(805) 945-5944	x	x	x
Los Angeles	Lancaster	Owner	Ed Bittner	National Metals & Surplus	45255 N Division	93534	(805) 949-2881			
Los Angeles	Lawndale	Recycling Coordinator	Mike Kapanpour	City Government	14717 Burin Ave	90260	(310) 970-2166	x	x	
Los Angeles	Lomita	Recycling Coordinator	Alison Sherman	City Government	24300 Narbonne Ave	90717	(310) 325-7110	x	x	
Los Angeles	Long Beach	Administrative Services Director	Richard Haller	Associated Students CSULB, Inc	5800 Atherton Ave	90815	(310) 985-4994		x	x
Los Angeles	Long Beach	Recycling Coordinator	Ben Soriano	Bel-Art	2485 E 68th St	90805	(310) 633-4601			x
Los Angeles	Long Beach	Recycling Coordinator	Penny Crowe	Canco Recycling	2725 South St	90805	(310) 602-0622	x		x
Los Angeles	Long Beach	Recycling Coordinator	James Kuhl	City Government	333 West Ocean Blvd, 10th Fl	90802	(310) 590-6001	x	x	
Los Angeles	Long Beach	Recycling Coordinator	Elizabeth Harder	Goodwill Industries of Southern Los Angeles County	800 W Pacific Coast Hwy	90806	(310) 435-3411	x	x	x
Los Angeles	Long Beach	Owner	Howard Noble	Noble Enterprises	1450 Oregon Ave	90813	(310) 598-1868	x		x
Los Angeles	Long Beach	President	G Dennis Hume	Veterans Recycling Center, Inc	5674 Cherry Ave	90805	(310) 984-7080			x
Los Angeles	Los Angeles	Secretary	Errol Segal	Active Recycling Company, Inc	2000 W Slauson Ave	90047	(213) 295-7774	x	x	
Los Angeles	Los Angeles	President	Paul Forray	Alameda Industrial Center, Inc	2201 S Alameda St	90058	(213) 742-6930			
Los Angeles	Los Angeles	General Manager	Leon Jones	Alloy Metals Company, Inc	1000 E 60th St	90001	(213) 234-9235			
Los Angeles	Los Angeles	Recycling Coordinator/ Trader	Clint Trainer/ Joe Massey	Alpert & Alpert, Inc	1820 Soto St	90023	(213) 265-4040	x	x	x
Los Angeles	Los Angeles	Recycling Coordinator	Yolanda James	American National Can Co	4855 E 52nd Pl	90040	(213) 562-5100	x	x	x
Los Angeles	Los Angeles	Vice-President	Kyu Kim	Amerko IM / Export, Inc	2150 Venice Blvd	90037	(213) 731-7715			
Los Angeles	Los Angeles	President	Gregory Rouchon	Angelus Western Paper Fibers, Inc	2474 Porter St	90021	(213) 623-9221			x
Los Angeles	Los Angeles	Owner	Araceli Placencia	Araceli Patricia Placencia	1253 S Lorena St	90023	(213) 264-8583			
Los Angeles	Los Angeles	Owner	Carlos Martinez	A-1-Rentals	1764 E Vernon Ave	90058	(213) 231-2886			
Los Angeles	Los Angeles	President	Jeff Johnson	Basic Fibers, Inc	6019 S Manhattan Pl	90047	(213) 753-3491			
Los Angeles	Los Angeles	Recycling Operator	Ernie Castellanos	Basic Fibers, Inc	6019 S Manhattan Pl	90047	(213) 753-3491			
Los Angeles	Los Angeles	Recycling Coordinator	Chris Park	Bestway Recycling Co	2268 E Firestone	90002	(213) 588-8157			x
Los Angeles	Los Angeles	President	Donald Stepanian	Bill's Paper Mill Supplies	1530 S Bonnie Beach Pl	90023	(213) 264-4050			
Los Angeles	Los Angeles	President	Wendy Gordon	Bonded Fibers International	3211 S Hooper St	90011	(213) 233-3593			
Los Angeles	Los Angeles	Recycling Coordinator	Richard Lindgren	Browning Ferris Industries of California, Inc	2201 E Washington Blvd	90021	(213) 746-9700	x	x	x
Los Angeles	Los Angeles	Vice President	Orlando Monroe	C & M Metals, Inc	1709 E 24th St	90058	(213) 234-4662			
Los Angeles	Los Angeles	Partner	Oscar Sagastume	California Containers	1232 E 63rd St	90001	(213) 588-3142	x		
Los Angeles	Los Angeles	Recycling Coordinator	Karen Strelitz	California Metal X	366 E 58th St	90011	(213) 234-9281			
Los Angeles	Los Angeles	Owner	Yolanda Cervantes	Cervantes Recycling Center	2400 W 8th St	90057	(213) 780-2874			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Los Angeles	Owner	Cesar Flores	Cesar Flores	4359 Sunset Blvd	90029	(213) 413-4258			
Los Angeles	Los Angeles	Recycling Coordinator	Emma Amezquita	City Fibers, Inc	2500 S Santa Fe Ave	90058	(213) 583-1013			x
Los Angeles	Los Angeles	Director of Integrated Sld Wst	Joan Edwards	City Government	200 N Main St, Rm 580 City Hall	90012	(213) 237-1444	x	x	
Los Angeles	Los Angeles	Recycling Coordinator	Drew Sones	City Government	419 S Spring, Ste 900	90013	(213) 893-8000	x	x	
Los Angeles	Los Angeles	Owner	Makich Grigorian	City Recycling Center	7601 S Broadway	90003	(213) 750-2761			x
Los Angeles	Los Angeles	Recycling Coordinator	Ken Simkins	Classic Fibres, Inc	6344 S Compton	90001	(213) 656-8865		x	
Los Angeles	Los Angeles	Recycling Coordinator	Bob Gordon	Consolidated Fibres-Settsu	2016 E Bay St	90021	(213) 627-7351	x		x
Los Angeles	Los Angeles	Recycling Coordinator	Steve Helvik	EKCO Metal	1700 Pernno Pl	90023	(213) 264-1615			
Los Angeles	Los Angeles	Owner	Richard Conb	El Fish Pescadena, Inc	1715 E Florence Ave	90001	(213) 587-4244	x		x
Los Angeles	Los Angeles	Secretary	Steven Kane	Harley Metals	1706 S Grande Vista Ave	90023	(213) 264-0646			x
Los Angeles	Los Angeles	President	Howard Yoursoff	Howard Scrap Metal Co, Inc	2110 E 15th St	90021	(213) 627-3508			
Los Angeles	Los Angeles	Partner	Joel Mack	In-The-Green Recycling	5219 S Vermont	90037	(213) 785-9493			
Los Angeles	Los Angeles	Recycling Coordinator	Victor Rubin	Jefferson Recycling Center, Inc	5717 W Jefferson Blvd	90016	(310) 837-9752			x
Los Angeles	Los Angeles	Recycling Coordinator	Rickey Staten	Jerry's Recycling	7611 S Alameda	90001	(213) 588-2181			
Los Angeles	Los Angeles	Recycling Coordinator	Jorge Melgar	Jorge A Melgar	517 S Rampart Blvd, Ste 108	90057	(213) 383-7804			
Los Angeles	Los Angeles	Owner	Jose Diaz	Jose Diaz	257 E Vernon Ave	90011	(213) 759-8518			
Los Angeles	Los Angeles	Owner	Dong Kim	L A Recycling Center	1000 N Main	90012	(213) 221-9188			
Los Angeles	Los Angeles	Owner	Levi Norkin	L & F Scrap Metals	1212 E Slauson Ave	90011	(213) 231-0242			
Los Angeles	Los Angeles	Owner	Joshua Laureano	Laur Metals Co	2377 W Pico Blvd	90006	(213) 269-8326			
Los Angeles	Los Angeles	Owner	Issac Laureano	Laur Metals Co	4317 W Beverly Blvd	90004	(213) 269-8326			
Los Angeles	Los Angeles	Owner	Mervin Wate	Logic Rucycling	4801 S Broadway	90037	(213) 232-1378			
Los Angeles	Los Angeles	Owner	Armando Longoria	Longoria Recycling	5400 S Central Ave	90011	(213) 585-8614			
Los Angeles	Los Angeles	President	Sergio Alvarez	Los Angeles Scrap Iron & Metal Corp	1910 E Olympic Blvd	90021	(213) 622-5744			
Los Angeles	Los Angeles	Owner	Rodrigo Pina	Los Angeles Waste Material	2035 E 15th St	90021	(213) 747-7659			
Los Angeles	Los Angeles	Owner	Luis Rendon	Luis Rendon Recycling	8216 Compton Ave	90001	(213) 747-7628			
Los Angeles	Los Angeles	President	Penny Crowe	Market Recycling, Inc	1232 East 63rd St	90001	(213) 588-9402			x
Los Angeles	Los Angeles	Owner	Alfonso Martinez	Martinez Meat Market	3003 Wabash Ave	90063	(213) 266-3583			
Los Angeles	Los Angeles	General Manager	Denise Maggio	Mid City Iron & Metal Corp	2104 E 15th St	90021	(213) 747-4281			
Los Angeles	Los Angeles	Secretary	Nathan Mizrahi	Mizrahi Metals, Inc	6400 Bandini Blvd	90040	(213) 726-0277			
Los Angeles	Los Angeles	Owner	Gonzalo Navarro Jr	Navarro's Recycling	2532 S Central	90011	(213) 235-6092			
Los Angeles	Los Angeles	Owner	Gonzalo Ponce	Navarro's Recycling Co	424 E 29th St	90011	(213) 747-4588			
Los Angeles	Los Angeles	Partners	Lourdes & Miyoko Shiozawa	New Way Recycling Center	3521 Temple St	90004	(213) 664-2095			
Los Angeles	Los Angeles	Recycling Coordinator	Rudy Ortiz	Ortiz Metal Recycling	5719 Durate St	90058	(213) 581-5481			
Los Angeles	Los Angeles	Owner	Oscar Arevalo	Oscar Arevalo Recycling	10701 S Compton Ave	90059	(213) 566-6110			
Los Angeles	Los Angeles	Owner	Tyrone Otis	Otis Recycling	8120 S Main St	90003	(213) 971-3654			
Los Angeles	Los Angeles	Plant Manager	E J Contreras	Owens-Illinois Glass Container, Inc	2923 Fruitland Ave	90051	(213) 586-4240			
Los Angeles	Los Angeles	Owner	Epifano Perez	P & A Recycle	8218 S Main St	90003	(213) 971-6252			x
Los Angeles	Los Angeles	President	Alfred Michelson	Paper Fibers, Inc	2211 E Washington Blvd	90021	(213) 583-6005			
Los Angeles	Los Angeles	Owner	Pedro Perez	Pedro Ruiz Perez Recycling	4041 Whittier Blvd	90023	(213) 266-8768			
Los Angeles	Los Angeles	Owner	Alfredo Valenzuela	Penny Recycling Cans	1521 Brooklyn Ave	90033	(213) 223-0925			
Los Angeles	Los Angeles	Owner/ Operator	Orlando Torres	Peru Cash For Cans	7901 S Central Ave	90001	(213) 752-8352			
Los Angeles	Los Angeles	Owner	Aura Diaz	Recycling Life	11518 1/2 Western	90028	(213) 465-9477			
Los Angeles	Los Angeles	Owner	Rolando Rodriguez	Rolando Rodriguez Recycling	5021 Santa Monica Blvd	90029	(213) 664-0743			
Los Angeles	Los Angeles	President	Gary Weisenberg	S & W Atlas Iron & Metal Co, Inc	10019 S Alameda St	90002	(213) 566-5184			

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Los Angeles	Owner	Mercedes Chavez	Saenz Metal	10420 Avalon Blvd, Ste 1	90003	(213) 779-7842			
Los Angeles	Los Angeles	Owner	Amulfo Vazquez	San Juan Recycling Center	2501 Whittier Blvd	90023	(213) 261-7403			
Los Angeles	Los Angeles	Owner	Sam Horwitz	Shamrock Iron & Metal Co	1949 S Alameda St	90058	(213) 748-6161			
Los Angeles	Los Angeles	Recycling Coordinator	Ion Yalem	Smurfit Recycling Co	3033 E Washington Blvd	90023	(213) 263-2103	x		x
Los Angeles	Los Angeles	President	John Gasparian	South Coast Recycling, Inc	5487 San Fernando Rd, West	90039	(213) 245-5133			x
Los Angeles	Los Angeles	President	Louis Abrams	Sterling Smelting Corp	9405 S Alameda St	90002	(213) 564-3211			
Los Angeles	Los Angeles	Manager	Marcel Wilhelm	United States Scrap Co	1316 E Slauson Ave	90011	(213) 585-6354			
Los Angeles	Los Angeles	President	Arthur Kazarian	Waste Transfer & Recycling, Inc	840 S Mission Rd	90023	(213) 628-0991			
Los Angeles	Los Angeles	Recycling Coordinator	Keith Fuller	Weyerhaeuser Paper Co	6625 Stanford Ave	90001	(213) 750-0134	x	x	
Los Angeles	Los Angeles	Recycling Coordinator	Gregg Williams	Williams Recycling Co, Inc	2225 E 92nd St	90002	(213) 564-9969	x	x	x
Los Angeles	Lynwood	Recycling Coordinator	Lorry Torres	City Government	11330 Bullis Rd	90262	(310) 603-0220	x	x	
Los Angeles	Malibu	Recycling Coordinator	Kimberly Collins	City Government	23805 Stewart Ranch Rd	90265	(805) 653-6597	x	x	
Los Angeles	Manhattan Beach	Recycling Coordinator	David Ludwig	City Government	3621 Bell Ave	90266	(310) 545-5621	x	x	
Los Angeles	Maywood	Recycling Coordinator	Sam Miller	City Government	4319 E Slauson Ave	90270	(213) 584-6315	x	x	
Los Angeles	Maywood	Owner	Jaurequi Vicente	Vicente Jaurequi Recycling	4722 E Slauson Ave	90270	(213) 583-9515			
Los Angeles	Mission Hills	Owner	Hernan Garcia	G A G Recycling	10951 Memory Park Ave	91345	(818) 834-2989			
Los Angeles	Monrovia	Recycling Coordinator	Barry Foster	City Government	415 S Ivy Ave	91016	(818) 359-3231	x	x	
Los Angeles	Monrovia	Recycling Coordinator	Donna Leiby	J P Paper Shredders	428 W Chestnut Ave	91016	(818) 357-1775	x		x
Los Angeles	Montebello	President	Jer-Cheng Chen	Belmont Fibers, Inc	1736 Chapin Rd	90640	(213) 727-9232			
Los Angeles	Montebello	Assistant City Engineer	Clark Sigmeyer	City Government	1600 Beverly Blvd	90640	(213) 887-1475		x	
Los Angeles	Montebello	Owner	Jose Cuevas	Rapid Recycling Center	1605 Chapin Rd	90640	(213) 888-0105			
Los Angeles	Montebello	Recycling Coordinator	John Agamalian	Subhaulers Central	1539 W Washington Blvd	90640	(213) 721-3030	x		
Los Angeles	Monterey Park	Public Works Director	Nels Palm	City Government	320 West Newmark Ave	91754	(818) 307-1283		x	
Los Angeles	North Hollywood	President	Arthur Yacobozzi	Alpha Recycling, Inc	13314 Sabcoy St	91605	(818) 982-5800			
Los Angeles	North Hollywood	Owner	Rosanna Brucato	Can Depot	5948 Vineland	91606	(213) 255-3944			
Los Angeles	North Hollywood	Owner	Victor Castillo	Castillo Recycling	11720 Vanowen St	91605	(818) 982-4135			
Los Angeles	North Hollywood	Owner	Arnold Berkovics	Valley Metals	6850 Farmdale Ave	91605	(800) 669-9606			
Los Angeles	Northridge	General Manager	Michael Shmaln	BMN Recycling Center	19019 Parthenia St, Ste 106	91324	(818) 767-1018			
Los Angeles	Northridge	President	Erick Schulze	Northridge Recycling Center	9349 Melvin Ave, Unit 1	91324	(818) 998-6732	x		x
Los Angeles	Northridge	Owner	John Curry	United Surplus Iron & Metal Co	18333 Eddy St	91325	(818) 701-0590			
Los Angeles	Norwalk	Deputy City Mgr	Daniel Keen	City Government	12700 Norwalk Blvd	90650	(310) 929-2677	x	x	
Los Angeles	Norwalk	Recycling Coordinator	Jill Anderson	City Government	P O Box 1030	90651-1030	(310) 929-2677	x	x	
Los Angeles	Pacoima	Owner	Carlos Ferlini	Ferlinis Recycling	9750 Laurel Canyon Blvd	91331	(818) 753-9239			
Los Angeles	Pacoima	President	Daniel Schweitzer	Number 1 Recycling, Inc	12051 Branford	91352	(818) 890-2267			
Los Angeles	Palmdale	Vice President	David Kramer	Alameda Metals, Inc	37815 6th St East	93550	(805) 269-2302			
Los Angeles	Palmdale	Recycling Coordinator	Russ Bird	City Government	708 East Palmdale Blvd	93550	(805) 267-5100	x	x	
Los Angeles	Palmdale	Recycling Coordinator	David Huff	Palmdale Recycling, Inc	38022 Sierra Hwy	93550	(805) 273-4825		x	
Los Angeles	Palos Verdes Estates	Asst Engineer	Aron Baker	City Government	340 Palos Verdes Dr, West	90274	(310) 378-0383			
Los Angeles	Paramount	Deputy City Manager	Richard Leahy	City Government	16400 Colorado Ave	90723	(310) 220-2022	x	x	
Los Angeles	Paramount	Recycling Coordinator	Elaine Aguilar	City Government	16400 Colorado Ave	90723	(310) 220-2022	x	x	
Los Angeles	Paramount	Owners	Dale Cotterell & Tom Lobraton	D & T Recycling	14113 Garfield	90723	(310) 531-4990	x		
Los Angeles	Paramount	Recycling Coordinator	Marilyn Stotmore	Oller Salvage Co, Inc	6503 Somerset Blvd	90723	(310) 634-3650			
Los Angeles	Paramount	Recycling Coordinator	Morris Samarin	Paramount Resource Recycling	7230 Petterson Ln	90723	(310) 602-6505	x	x	x
Los Angeles	Paramount	President	Louis Amen	Super A Food, Inc	13120 Downey Ave	90723	(310) 634-2680			

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Pasadena	Recycling Coordinator	Lisa Constoride	City Government	100 N Garfield, Rm 212	91109-7215	(818) 405-4116	x	x	
Los Angeles	Pearblossom	Recycling Operators	Jeremiah & Jeanette Stalen	Pearblossom Equipment Rental & Recycle	12602 Pearblossom Hwy	93553	(805) 944-2924			
Los Angeles	Pico Rivera	Recycling Coordinator	R C Shavez	City Government	6615 S Passons Blvd	90660	(310) 801-4383	x	x	
Los Angeles	Pico Rivera	Recycling Coordinator	William Shanon	City Government	6615 S Passons Blvd	90660	(310) 942-2000	x	x	
Los Angeles	Pico Rivera	City Manager	Dennis Coutermarche	City Government	6615 S Passons Blvd	90660	(310) 801-4368		x	
Los Angeles	Pico Rivera	Vice President	Dan Samann	QPF, Inc	8520 Fishman Rd	90660	(310) 948-3888			
Los Angeles	Pomona	Integrated Waste Coordinator	Elena Qualls	City Government	636 West Monterey St	91768	(909) 620-2392	x		
Los Angeles	Pomona	Recycling Coordinator	Darcie Dolf	Mission Recycling Center	1341 E Mission Blvd	91766	(909) 623-1278			
Los Angeles	Pomona	President	Mike Macardican	Recycling Resources	1406 W Second St	91766	(909) 622-1287			
Los Angeles	Pomona	Recycling Coordinator	Jay Kim	Sunrise Industries, Inc	1326 E Ninth St	91766	(909) 629-5265		x	
Los Angeles	Rancho Palos Verdes	Recycling Coordinator	Veronica Dolleschelle	City Government	30940 Hawthrone Blvd	90274	(310) 377-0360			
Los Angeles	Redondo Beach	Recycling Coordinator	Tammy Kanutson	City Government	P O Box 270	90277	(310) 318-0613	x	x	
Los Angeles	Redondo Beach	Staff	Stacy Stevens	City Government	P O Box 270	90277	(310) 318-0613		x	
Los Angeles	Redondo Beach	Recycling Coordinator	Geff Donlev	Western Waste Industries	2420 Marin Ave	90806	(310) 374-4006		x	x
Los Angeles	Reseda	Recycling Coordinator	David Handelman	Universal Metal	18411 Gault St	91335	(818) 996-6633	x		x
Los Angeles	Rolling Hills	Recycling Coordinator	Lola Ungar	City Government	2 Portugese Bend Rd	90274	(310) 377-1521	x	x	
Los Angeles	Roxing Hils Estate	Recycling Coordinator	Michelle Swanson	City Government	4045 Palos Verdes Dr. North	90274	(310) 377-1577		x	
Los Angeles	Rosemead	Executive Asst to City Mgr	Jeff Stewart	City Government	8838 E Valley Blvd	91770	(818) 288-6671	x	x	
Los Angeles	Rosemead	Recycling Coordinator	James Troyer	City Government	8838 E Valley Blvd	91770	(818) 288-6671		x	
Los Angeles	Rowland Heights	Recycling Coordinator	Sheila Kay	KAY-MET Recycling	926 S Nogales St	91748	(818) 913-9964	x		x
Los Angeles	San Dimas	Recycling Coordinator	Nelson Fialho	City Government	245 E Bonita Ave	91773	(714) 599-6713	x	x	
Los Angeles	San Fernando	Recycling Coordinator	Gabrielle Sanchez	City Government	117 MacNeil St	91340	(818) 898-1242	x	x	
Los Angeles	San Gabriel	City Administrator	Michael Paules	City Government	P O Box 130	91778	(818) 308-2802	x	x	
Los Angeles	San Gabriel	Recycling Coordinator	Douglas Benash	City Government	532 W Mission Dr	91776	(818) 308-2809	x	x	
Los Angeles	San Marino	Administrative Asst	Scott Pomrehn	City Government	2200 Hunington Dr	91108	(818) 300-0700	x	x	
Los Angeles	San Pedro	Owner	Robert Baroncini	San Pedro Recycling Center	1900 N Gaffey	90731	(310) 548-0232	x		x
Los Angeles	San Pedro	Owner	Alvin Taylor	Taylor & Son Enterprise	377 W 10th St	90731	(310) 833-2747		x	
Los Angeles	Santa Clarita	President	Levon Artein	Cal Coast Recycling	20833 Santa Clara St	91321	(805) 252-0404		x	x
Los Angeles	Santa Clarita	Solid Waste Coordinator	Hazel Joanes	City Government	25663 Standford Ave	91355	(805) 294-2520	x	x	
Los Angeles	Santa Fe Springs	President	Jack Volkov	A S C, Inc	13014 Los Nietos Rd	90670	(310) 944-6306			
Los Angeles	Santa Fe Springs	Recycling Coordinator	Andrea Rowe	City Government	11710 E Telegraph Rd	90670	(310) 868-0511	x		
Los Angeles	Santa Fe Springs	Recycling Coordinator	Bruce Welch	Daybreak Recycling Service	12235 Los Nietos Rd	90670	(310) 946-6441	x	x	x
Los Angeles	Santa Monica	Waste Reduction Coordinator	Jon Root	City Government	2500 Michigan Ave	90404	(310) 458-8526	x		
Los Angeles	Santa Monica	President	Mitchell Carson	Planet Recycling, Inc	520 Broadway, Ste 350	90401	(213) 778-1768			
Los Angeles	Sierra Madre	Assistant City Manager	Shawn Joyce	City Government	232 W Sierra Madre	91024	(818) 355-7135	x	x	
Los Angeles	Signal Hill	Recycling Coordinator	John Cozad	City Government	2175 Cherry Ave	90808	(310) 426-7333		x	
Los Angeles	South El Monte	Recycling Coordinator	Steve Henley	City Government	1415 Santa Anita Ave	91733	(818) 579-6540	x	x	
Los Angeles	South El Monte	President	John Macardican	Commercial Wastepaper Co, Inc	9610 E Rush St	91733	(818) 448-6649			
Los Angeles	South El Monte	President	Ted Rexius	P & T Metals, Inc	2213 N Tyler Ave	91733	(818) 443-8921			x
Los Angeles	South Gate	Recycling Coordinator	Gloria Durand	California Metals Recycling, Inc	9309 Rayo Ave	90280	(213) 567-7767	x		x
Los Angeles	South Gate	Recycling Coordinator	Kevin Justen	City Government	8650 California Ave	90280	(213) 563-9537	x	x	
Los Angeles	South Gate	Manager	Andy Chen	Tzeng Long USA, Inc	5445 Tweedy Blvd	90280	(213) 722-5353			
Los Angeles	South Pasadena	Assistant City Manger	Chuck Conn	City Government	1414 Mission St	91030	(818) 799-9101	x	x	
Los Angeles	Sun Valley	Owner	William Slater	Apex Surplus Metal, Inc	8909 San Fernando Rd	91352	(818) 767-7202			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Los Angeles	Sun Valley	Waste Hauler	Aron Anderson	Browning Ferris Industries	9200 Glen Oaks Blvd	91352	(818) 767-7400	x	x	
Los Angeles	Sun Valley	President	Norman Kramar	Kramars Iron & Metal, Inc	8821 San Fernando Rd	91352	(818) 767-4303			
Los Angeles	Sun Valley	Owner	Norman Aichel	N A Parts	11345 Penrose St	91352	(818) 768-9076			
Los Angeles	Sun Valley	President	M Joseph Istnn	Newhall Junk & Salvage, Inc	12011 Branford St	91352	(818) 899-4208			
Los Angeles	Sun Valley	Owner	Jesse Sims	Pitch-In Recycling Center	8900 Glenoaks Blvd	91352	(818) 768-7955			
Los Angeles	Sun Valley	President	Mike Sakajian	San Fernando Metals, Inc	12242 Branford St	91352	(818) 897-0633			
Los Angeles	Sun Valley	President	Andrew Hsieh	So Cal Metals, Inc	11223 Tuxford St	91352	(818) 767-7020			
Los Angeles	Sun Valley	President	Robert Fagan	Sun Valley Paper Stock, Inc	11166 Pendleton St	91352	(818) 767-8984	x		x
Los Angeles	Sun Valley	Waste Hauler	Craig Young	Waste Mgt/County of Los Angeles	9081 Tujunga Ave	91352	(818) 767-7153	x	x	
Los Angeles	Sunland	President	Peter Wyckoff	Wyckoff, Inc	8126 Cora St	91040	(818) 352-0297			
Los Angeles	Sylmar	Recycling Coordinator	Dave Ashworth	Community Recycling & Resource Recovery	9147 DeGarmo Ave	91342	(805) 845-0700	x	x	x
Los Angeles	Temple City	Administrative Asst	Rick Otto	City Government	9701 Las Tunas Dr	91780	(818) 285-2171	x	x	
Los Angeles	Torrance	Recycling Coordinator	Arlene Barco	City Government	20500 Madronna Ave	90503	(310) 781-6900	x	x	
Los Angeles	Torrance	Recycling Coordinator	Gilbert Dodson	Smurfit Recycling Co	20502 S Denker Ave	90501	(310) 533-0333	x	x	x
Los Angeles	Van Nuys	Recycling Coordinator	Dick Gineban	City Government	6335 Woodley Ave	91406	(213) 237-1444	x	x	
Los Angeles	Van Nuys	Owner	Aram Minasyan	City Recycling	16133 1/2 Sherman Way	91406	(818) 901-0417			
Los Angeles	Van Nuys	Recycling Coordinator	Blair Coles	Enviro Trading & Recycling Corp	15105 Raymer St	91405	(818) 786-4493	x	x	x
Los Angeles	Van Nuys	President	Joseph Pezzner	Joe's Scrap Metal & Sales Co, Inc	13620 Saticoy St	91402-6302	(818) 780-7778			
Los Angeles	Vernon	Health Officer	Luis Pozzebon	City Government	4305 Santa Fe Ave	90058	(213) 563-9537			
Los Angeles	Walnut	Recycling Coordinator	Jack Yoshino	City Government	21201 La Puente	91789-0882	(714) 595-7543	x	x	
Los Angeles	West Covina	Admin Analyst 2	Sharon Gardner	City Government	P O Box 1440	91793	(818) 814-8468			
Los Angeles	West Covina	Environmental Svs Dir	Michael Miller	City Government	P O Box 1440	91793	(818) 814-8468	x		
Los Angeles	West Covina	Principal Owner	David Uribes	Puente Recycling	1705 W Workman	91790	(818) 337-7416			
Los Angeles	West Hollywood	Environmental Svs Mgr	Kevin Hendrick	City Government	8611 Santa Monica Blvd	90069	(310) 854-7331	x	x	
Los Angeles	West Los Angeles	Recycling Coordinator	Gary Petersen	Ecolo-Haul, Empire Waste Mgmt, Inc	10309 National Blvd	90034	(310) 838-5848			
Los Angeles	Westlake Village	Planning Director	Bob Theobald	City Government	4373 Park Terrace Dr	91361	(818) 706-1613		x	
Los Angeles	Whittier	Assistant Director	Anne-Marie Hayashi	City Government	13230 Penn St	90602	(310) 945-8214	x	x	
Los Angeles	Whittier	Recycling Coordinator	Bill George	County Government	1955 Workman Mill Rd	90607	(310) 699-7411	x	x	
Los Angeles	Whittier	Recycling Coordinator	John Pivovarroff	H B J J, Inc	10701 Inez St	90605	(310) 944-6786			
Los Angeles	Whittier	Recycling Coordinator	Donald Neilor	Los Angeles County Sanitation District	1955 Workman Mill Rd	90601	(310) 699-7411	x	x	x
Los Angeles	Wilmington	President	Bruce Falk	Action Sales & Metal Co, Inc	1625 E Pacific Coast Hwy	90744	(310) 549-5666			x
Los Angeles	Wilmington	Recycling Coordinator	June Mundoz	Ecology Auto Wrecking	1600 Eubanks	90744	(310) 835-5865			x
Los Angeles	Wilmington	Vice President	Tony Fan	Potential Industries, Inc	922 East E St	90744	(310) 549-5901	x	x	x
Los Angeles	Wilmington	Owner	Salvatore Russo	S J Russo Scrap Metal Service	1817 East M St	90744	(310) 830-8277			
Los Angeles	Woodland Hills	Recycling Coordinator	Janice Freeman	Satellite Recycling, Inc	20115 Victory Blvd	91367	(818) 999-0600	x		x
Madera	Chowchilla	Recycling Coordinator	Scott Lambers	City Government	145 Robertson Blvd	93610	(209) 665-8615		x	
Madera	Chowchilla	Recycling Coordinator	Art Alejandre	Madera Disposal Systems, Inc	19170 Ave 22	93610	(209) 673-2225	x		x
Madera	Chowchilla	Recycling Coordinator	Jerry Carlton	Mobile Recycling	24285 S Chowchilla Blvd	93610	(209) 665-4275			x
Madera	Madera	Recycling Coordinator	Mike Kirn	City Government	135 West Yosemite	93637	(209) 675-7817	x		
Madera	Madera	Recycling Coordinator	Mike Kirn	County Government	135 West Yosemite	93637	(209) 675-7817	x		
Madera	Madera	Executive Director	Robert Hand	Heartland Opportunity Center	323 North E St	93639	(209) 674-8828	x	x	x
Madera	Madera	Owner	Alex Hernandez	Hernandez Recycling Center	823 E Cleveland Ave	93638	(209) 674-1627	x		
Marin	Corte Madera	Recycling Coordinator	Bob Paul	City Government	P O Box 159	94976	(415) 927-5057			
Marin	Larkspur	Recycling Coordinator	Jean Bonander	City Government	400 Magnolia Ave	94939	(415) 927-5110			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Marin	Petaluma	Recycling Coordinator	Stanley Pronzini	Novato Disposal Service, Inc	2243 Petaluma Blvd South	94953	(707) 765-2082	x	x	
Marin	San Anselmo	Recycling Coordinator	Vacant	City Government	525 San Anselmo Ave	94960	(415) 258-4600	x	x	
Marin	San Rafael	President	Joseph Garbarino	Marin Recycling & Resource Recovery Assoc	535 Jacoby St	94901	(415) 453-1404	x	x	x
Marin	San Rafael	Recycling Coordinator	Rick Powell	Mill Valley Refuse	112 Front St	94901	(415) 457-9760	x	x	
Marin	Sausalito	City Manager	Michael Fuson	City Government	420 Litho St	94965	(415) 289-4109			
Marin	Tiburon	Recycling Coordinator	Tony Iacopi	City Government	1155 Tiburon Blvd	94920	(415) 435-7399			
Marin	Belvedere	City Manager	Edmund San Diego	City Government	450 San Rafael Ave	94920	(415) 435-3838			
Marin	San Rafael	HHW Program Manager	Gina Purin	County Government	10 North San Pedro Rd. # 1022	94903-4155	(415) 499-6647	x	x	
Marin	San Rafael	Recycling Coordinator	Barbara Thunen	County Government	10 North San Pedro Rd. # 1022	94903-4155	(415) 499-6647	x	x	
Marin	San Rafael	Compost Specialist	Kathy Ezraty	County Government	10 North San Pedro Rd. # 1022	94903-4155	(415) 499-6647	x	x	
Mariposa	Mariposa	Recycling Coordinator	Tom Starling	County Government	4639 Ben Hur Rd	95338	(209) 966-4744	x	x	
Mariposa	Mariposa	Recycling Coordinator	Fred Youngren	Total Waste Disposal of Mariposa	5593 Hwy 49 N	95338	(209) 966-3190			x
Mendocino	Fort Bragg	Recycling Coordinator	Gary Milliman	City Government	416 North Franklin	95437	(707) 961-2825		x	
Mendocino	Gualala	Owner	Francine Temple	Gualala Supermarket	39225 S Hwy 1	95445	(707) 884-1205	x		x
Mendocino	Point Arena	Recycling Coordinator	Fred Patten	City Government	P O Box 67	95468	(707) 882-2122		x	
Mendocino	Ukiah	Recycling Coordinator	Paul Cayler	City Government	300 Seminary Ave	95482	(707) 463-6200	x	x	
Mendocino	Ukiah	Recycling Coordinator	Sue Goodrick	City Government	300 Seminary Ave	95482	(707) 463-6286	x	x	
Mendocino	Ukiah	Solid Waste Operations Mgr	Randall Forbes	County Government	559 Low Gap Rd	95482	(707) 463-4078	x	x	
Mendocino	Ukiah	Owner	Eunice Lightel	Lightel's Food & Fuel	3201 N State St	95482	(707) 462-3931			
Mendocino	Ukiah	Owner	Wayne Reynolds	Ukiah Recycle	122 Leslie St	95482	(707) 462-9399	x	x	
Mendocino	Willits	Landfill Supervisor	Dave Madrigal	City Government	111 East Commercial St	95490	(707) 459-4601	x	x	
Mendocino	Willits	CEO	Gerald Ward	Solid Wastes of Willits, Inc	PO Box 1425	95490	(707) 459-4778		x	x
Merced	Atwater	President	Jack Vann	Atwater Iron & Metal, Inc	888 Applegate Rd	95301	(209) 358-4911			x
Merced	Atwater	Park Superintendent	Manuel Barios	City Government	750 Bellevue Rd	95301	(209) 357-6370		x	
Merced	Dos Palos	Recycling Coordinator	Darrell Fonseca	City Government	1546 Golden Gate Ave	93620	(209) 392-2174			
Merced	Dos Palos	Owner	Juventino Rodriguez	Recycling Center of Dos Palos	2218 Blossom St	93620	(209) 637-3181			x
Merced	Gustine	Recycling Coordinator	Gary Davenport	City Government	P O Drawer A	95322	(209) 854-6183			
Merced	Los Banos	Recycling Coordinator	Richard Hendrickson	City Government	P O Box 31	93635	(209) 827-7000	x		
Merced	Los Banos	Recycling Coordinator	Jessie Molina	Independent Recycling	1725 W Pacheco Blvd	93635	(209) 826-6779	x	x	x
Merced	Los Banos	Owner	Toni Dutra	T D F Enterprises, Inc	8301 St	93635	(209) 826-1955	x	x	x
Merced	Merced	Recycling Coordinator	Stan Murdok	City Government	678 West 18th St	95340	(209) 385-6807	x		
Merced	Merced	Recycling Coordinator	Ron Cortez	County Government	715 J St	95340	(209) 385-7605	x	x	
Merced	Merced	Solid Waste Specialist	Jenine Jost	County Government	1770 M St	95340	(209) 723-3153	x	x	
Merced	Merced	Owner/ Operator	Billie Hicks	H & H Salvage & Recycling	225 S Hwy 59	95340	(209) 722-9761	x		x
Merced	Merced	President	Donald Stewart Sr	Sierra Beverage Co	2651 Cooper Ave	95348	(209) 722-8058			
Modoc	Alturas	Recycling Coordinator	Lee Gorzell	County Government	202 West 4th St	96101	(916) 233-6406			
Modoc	Alturas	Co-Owner	James Holdorff	Holdorff's Recycling Center	605 N Ct	96101	(916) 233-3723			x
Mono	Bridgeport	Recycling Coordinator	Richard Boardman	County Government	P O Box 457	93517	(619) 932-5252			
Mono	Mammoth Lakes	Recycling Coordinator	Greg Newbury	City Government	P O Box 1609	93456	(619) 934-8983		x	
Mono	Mammoth Lakes	Recycling Coordinator	Donna Forester	Mammoth Disposal, Inc	254 Sierra Manor Rd	93546	(619) 934-2201		x	x
Mono	Walker	Chairman	Vernon Meyer	Antelope Valley Senior Citizens Center	399 Mule Deer Rd	96107	(916) 495-2323			x
Monterey	Carmel	Recycling Coordinator	Gary Kelly	City Government	P O Box SS	93921	(408) 624-3543		x	
Monterey	Carmel	Public Works Director	Jim Cullem	City Government	P O Box SS	93921	(408) 624-3543	x	x	
Monterey	Castroville	Recycling Coordinator	Jeff Vezzolo	A & S Metals	P O Box 955	95012	(408) 633-3379	x		

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Monterey	Castroville	Recycling Coordinator	Jim Shepperd	Carmel Marina Corp	P O Box 1306	95012	(408) 384-5000	x	x	
Monterey	Del Rey Oaks	Recycling Coordinator	Vacant	City Government	650 Canyon Del Rey Rd	93940	(408) 394-8511			
Monterey	Gonzales	Recycling Coordinator	Judy Paul	City Government	P O Box 647	93926	(408) 675-5000		x	
Monterey	Greenfield	Recycling Coordinator	Kelly Morgantini	City Government	P O Box 127	93927	(408) 674-5591	x	x	
Monterey	King City	Recycling Coordinator	Don Bates	City Government	212 South Vandenhurst	93930	(408) 385-3281	x	x	
Monterey	King City	Owner	Louie Rocha	Louie's Towing	304 S First St	93930	(408) 385-3362			
Monterey	Marina	City Clerk	Joy Junsay	City Government	2111 Hillcrest Ave	93933	(408) 384-3715			
Monterey	Monterey	Recycling Coordinator	Angela Giangrande	City Government	353 Camino El Esterro	93940	(408) 646-3896		x	
Monterey	Monterey	Refuse Director	David Lee	Monterey City Disposal Service	P O Box 2780	93942	(408) 372-7977	x	x	
Monterey	Pacific Grove	Recycling Coordinator	Christine Kirchofer	City Government	300 Forest Ave	93950	(408) 648-3100		x	
Monterey	Salinas	Owner	Alex Dy	A-1 Recycling	324 Kings St	93905	(408) 754-5639			x
Monterey	Salinas	Recycling Coordinator	Cyril Appel	City Government	200 Lincoln Ave	93901	(408) 758-7106		x	
Monterey	Salinas	Recycling Coordinator	Kurt Hunter	County Government	1270 Natividad Rd	93906	(408) 755-5425		x	
Monterey	Salinas	Owner	Robert Edwards	EMS Recyclers	2038 San Miguel Canyon Rd	93907	(408) 663-3689		x	
Monterey	Salinas	Owner	Joseph Mazzuca	Joe Mazzuca Recycling	552 Brunken Ave	93901	(408) 757-6464	x		
Monterey	Salinas	Recycling Coordinator	Richard Leggett	Salinas Disposal Service, Inc	1120 Madison Ln	93907	(408) 424-0619	x	x	x
Monterey	Seaside	Recycling Coordinator	Jim Griffith	City Government	440 Harcourt Ave	93955	(408) 899-6209		x	
Monterey	Seaside	Recycling Administrator	Pam Hampton	City Government	440 Harcourt Ave	93955	(408) 899-6209	x	x	
Monterey	Seaside	Recycling Coordinator	Mary Harris	Coors Recycling Center	1781 Del Monte Blvd	93955	(408) 394-6551			
Monterey	Soledad	Recycling Coordinator	Joel Moses	City Government	248 Main St	93960	(408) 678-3963			
Napa	Calistoga	Public Works Analyst	Bob Shneider	City Government	1232 Washington	94515	(707) 942-2828		x	
Napa	Calistoga	Recycling Coordinator	Wally Kolb	City Government	1232 Washington	94515	(707) 942-2828		x	
Napa	Napa	Recycling Coordinator	Nancy Watt	City Government	1600 First St	94559	(707) 257-9520	x	x	
Napa	Napa	Recycling Coordinator	Jill Pahl	County Government	1195 Third St, Rm 205	94559	(707) 253-4471	x	x	
Napa	Napa	Recycling Coordinator	Greg Kelley	Napa Garbage Service, Inc	400 Clay St	94559	(707) 255-5200	x	x	x
Napa	Napa	President	Raymond Sercu	Vallergas Drive-In Markets, Inc	426 First St	94559	(707) 253-2620		x	x
Napa	Napa	Owner	Rod Rougelot	Valley Recycling	874 Jackson St	94559	(707) 258-8301			x
Napa	St Helena	Recycling Coordinator	Joe Potter	City Government	P O Box 58	94574	(707) 963-4941	x	x	
Napa	St Helena	President	Marvin Pestoni	Upper Valley Disposal & Recycling	1285 Whitehall Ln	94574	(707) 963-7988	x	x	x
Napa	Yountville	Recycling Coordinator	Jan Wellman	City Government	6550 Yount St	94559	(707) 944-8851	x	x	
Nevada	Grass Valley	Recycling Coordinator	Linda Gallardo	City Government	125 E Main St	95945	(916) 273-2241		x	
Nevada	Grass Valley	President	Carol Sherman	Grass Valley Disposal, Inc	PO Box 1011	95945	(916) 274-3092	x	x	x
Nevada	Nevada City	Recycling Coordinator	Ralph Eymann	County Government	950 Maidu	95959	(916) 265-1555	x	x	
Nevada	Nevada City	Owner	Perry Thomas	Sierra Beverage Distributing	12958 Madrone Forest Dr	95959	(916) 273-1678	x		x
Orange	Anaheim	Owner	Louis Benner	Benner's Recycling Center, Inc	2870 E Miraloma	92806	(714) 632-7980	x		x
Orange	Anaheim	Recycling Coordinator	Bob Desio	City Government	955 South Melrose	92805	(714) 254-6809	x	x	
Orange	Anaheim	Community Relations	Ron Kirkpatrick	Coors Distributing Co	1625 S Lewis St	92805	(714) 939-0500			
Orange	Anaheim	Recycling Coordinator	Temre Jenkins	CVT Recycling (Consolidated Volume Transporters)	PO Box 309	92815	(714) 630-9615	x	x	x
Orange	Anaheim	President	John Dalton	Dalton Enterprises, Inc	929 E South St	92805	(714) 635-2181	x	x	x
Orange	Anaheim	President	David Williams	David B Williams & Associates	3250 E Frontera Ave	92806	(714) 630-8551	x	x	x
Orange	Anaheim	Recycling Coordinator	Steve Lopez	Sunwest Metals	1874 S Anaheim Blvd	92805	(714) 635-0470	x		x
Orange	Brea	Recycling Coordinator	John Oliver	City Government	#1 Civic Center Circle	92621	(714) 990-7642			
Orange	Buena Park	Recycling Coordinator	Doug Bardowski	City Government	6650 Beach Blvd	92804	(714) 562-3554	x	x	
Orange	Costa Mesa	Recycling Coordinator	Carol Jacobs	City Government	P O Box 1200	92628	(714) 754-5024			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Orange	Costa Mesa	Recycling Program Director	Michael Carey	Orange Coast Recycling Center	2701 Fairview Rd	92626	(714) 432-5131	X	X	X
Orange	Cypress	Recycling Coordinator	Jamie Herberon	City Government	5275 Orange Ave	90630	(714) 229-6708	X	X	
Orange	Dana Point	Recycling Coordinator	Gary Dysart	City Government	33282 Golden Lantern	92629	(714) 248-9890	X	X	
Orange	Dana Point	Recycling Staff	Julie Dumhart	City Government	33282 Golden Lantern	92629	(714) 248-3560	X	X	
Orange	Fountain Valley	Recycling Coordinator	Susan Lynn	City Government	10020 Slater Ave	92708	(714) 965-4400	X	X	
Orange	Fullerton	Recycling Coordinator	George Buell	City Government	303 W Commonwealth Ave	92632	(714) 738-6884	X	X	
Orange	Fullerton	Partner	John Sexton	U S Recycling Centers	1250 E Walnut Ave	92631	(714) 525-4567	X	X	X
Orange	Garden Grove	Recycling Coordinator	Denise Landstedt	City Government	11391 Acacia Parkway	92642	(714) 741-5327	X	X	
Orange	Garden Grove	Owner	Jesus Garcia	Garcia Recycling	13862 Seaboard Circle	92634	(714) 554-3213	X		
Orange	Huntington Beach	Recycling Coordinator	James Sankey	City Government	2000 Main St	92648	(714) 536-5522	X	X	
Orange	Huntington Beach	Recycling Coordinator	Cole Pearce	Sackin Metals, Inc	15201 Transistor Ln	92649	(714) 891-4505			X
Orange	Huntington Beach	Recycling Coordinator	Bonnie Gendron	Stubby's Recycling Center	PO Box 1968	92647	(714) 375-6382	X		X
Orange	Irvine	Recycling Coordinator	Cindy Asher	City Government	15029 Sand Canyon Rd	92718	(714) 724-7664	X	X	
Orange	Irvine	President	Arthur Kazarian	Sunset Environmental, Inc	16182 Construction Circle, West	92714	(714) 551-5714			
Orange	Irvine	Recycling Coordinator	Rene Shanley	Waste Management, Inc	16122 Construction Circle, East	92714	(714) 642-1191			
Orange	La Habra	Recycling Coordinator	Richard Mayrer	City Government	P O Box 337	90633	(310) 905-9789	X	X	
Orange	La Habra	Owner	Jose Ornelas	Unicorn Metals Co	325 E 4th Ave	90631	(714) 992-2562	X		
Orange	La Palma	Recycling Coordinator	Brigitte Charles	City Government	7822 Walker St	90623	(714) 523-7700	X		
Orange	Laguna Beach	Environmental Specialist	Carolyn Soloman	City Government	505 Forest Ave	92651	(714) 497-0706	X	X	
Orange	Laguna Hills	Recycling Coordinator	Marcy Shwartz	City Government	25201 Paseo De Alicia	92653	(714) 707-2600			
Orange	Laguna Hills	President/Owner	John Leensvaart	D & J Recycling	23261 Del Lago, Ste 7	92653	(714) 770-1896			X
Orange	Laguna Niguel	Recycling Coordinator	Ken Montgomery	City Government	27801 La Paz Rd	92656	(714) 362-4300			
Orange	Los Alamitos	Recycling Coordinator	Mark Gregorick	Briggman Disposal	P O Box 3237	90720	(310) 598-8729	X	X	
Orange	Los Alamitos	Recycling Coordinator	Gerard Goedhart	City Government	P O Box 3147	90720	(310) 431-3538		X	
Orange	Mission Viejo	Recycling Coordinator	Danian Hopp	City Government	26522 La Alameda, Ste 190	92691	(714) 582-2489		X	
Orange	Newport Beach	Recycling Coordinator	Paul Peters	City Government	3300 Newport Blvd	92659	(714) 644-3068	X	X	
Orange	Orange	Recycling Coordinator	Nanci Gee	City Government	300 E Chapman Ave	92666	(714) 744-5550	X	X	
Orange	Orange	Owner	Harold Lane	Environmental Recycling Systems	8642 Olive Ave	92665	(714) 637-9510			
Orange	Orange	Recycling Coordinator	Michael Calta	Vi Cal Metals, Inc	1645 N Case	92667	(714) 637-8060	X		X
Orange	Orange	President	Richard Krueger	Western Stock Tab, Inc	1200 W Struck	92665	(714) 771-7644			
Orange	Placentia	Owner	James Somsak	Atwood Auto Wrecking	218 S Van Buren	92670	(714) 528-7568			X
Orange	Placentia	Recycling Coordinator	Marla Anderson	City Government	401 E Chapman Ave	92670	(714) 993-8117	X	X	
Orange	San Clemente	Recycling Coordinator	Michael Morgan	City Government	390 Avenue Pico, Bldg A	92672	(714) 361-8376	X	X	
Orange	San Juan Capistrano	Recycling Coordinator	Douglas Dumhart	City Government	32400 Paseo Adelanto	92675	(714) 493-1171	X	X	
Orange	Santa Ana	Vice President	Peter Han	A & M Metals, Inc	2301 W 5th St	92703	(714) 547-6507	X		X
Orange	Santa Ana	Owner	Jaime Gutierrez	All Variety Metals, Inc	1016 Santiago Ave	92701	(714) 835-9235			
Orange	Santa Ana	President	Lawrence Kuda	Bruce Metal & Salvage, Inc	920 E 6th St	92701	(714) 543-1300	X		
Orange	Santa Ana	Recycling Coordinator	Angel Avila	Cans For Coins	2610 W Edinger	92704	(714) 436-1755			
Orange	Santa Ana	Recycling Coordinator	William Hayes	City Government	P O Box 1988 M-22	92701	(714) 565-4048	X	X	
Orange	Santa Ana	Recycling Coordinator	Jan Goss	County Government	1200 N Main St, Ste 201	92701	(714) 568-4315			
Orange	Santa Ana	Owner	George Casteneda	George's Scrap Metal & Recycling Center	930 E Walnut	92701	(714) 547-9079	X	X	X
Orange	Santa Ana	Recycling Coordinator	Cindy Gertz	Goodwill Industries of Orange Counties	410 N Fairview	92703	(714) 547-6301	X	X	X
Orange	Santa Ana	Owner	Jesus Garcia	Jesus Garcia	631 S Main St	92707	(714) 554-3213	X		
Orange	Santa Ana	Owner	Francisco Rodriguez	KIKO Recycling	2406 W Edinger	92704	(714) 564-9456			X

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Orange	Santa Ana	Owner	Rosalino Pineda	La Placita De Santa Anita	3638 W 1st St	92703	(714) 531-6157			
Orange	Santa Ana	Vice President	Michael De La Cruz	Men Cal	941 E 4th St	92702	(714) 547-7585			x
Orange	Seal Beach	Recycling Coordinator	Jamie Herberon	City Government	P O Box 609	90630	(714) 229-6708	x	x	
Orange	Stanton	Vice President	Andrew Edwards	A Royal Recycling, Inc	8352 Catella Blvd	90680	(714) 995-9020			x
Orange	Stanton	Recycling Coordinator	Michael Silva	C R & R, Inc	11292 Western Ave	90680	(714) 826-9049			x
Orange	Stanton	Recycling Coordinator	Fred Wickman	City Government	10660 Western Ave	90680	(714) 220-2220			
Orange	Tustin	Recycling Coordinator	Katie Pitcher	City Government	15222 Del Amo Ave	92680	(714) 544-8890	x	x	
Orange	Tustin	President	Bharat Gala	Ecology Resources Corp	750 El Camino Real	92680	(714) 544-5850			
Orange	Villa Park	Recycling Coordinator	Fred Maley	City Government	17855 Santiago Blvd	92667	(714) 998-1500	x	x	
Orange	Yorba Linda	Recycling Coordinator	Glenn Yasui	City Government	4845 Casa Loma Ave	92686	(714) 961-7110			
Placer	Auburn	Owner	Steven Beard	Auburn Community Recycling Center	350 Sacramento St	95603	(916) 889-2267			x
Placer	Auburn	Recycling Coordinator	Kirk Smith	Auburn Placer Disposal Service	12305 Shale Ridge Rd	95602	(916) 885-3735	x		x
Placer	Auburn	Recycling Coordinator	Rich Guillen	City Government	1225 Lincoln Way	95603	(916) 823-4250		x	
Placer	Auburn	Recycling Coordinator	Will Dickenson	County Government	11444 B Ave	95603	(916) 889-7483			
Placer	Auburn	Recycling Coordinator	Bob Schultz	Nor Cal Beverage Co	6230 Enterprise Dr	95619	(916) 626-0755			
Placer	Colfax	Recycling Coordinator	William Enoch	City Government	P O Box 702	95713	(916) 346-2313	x	x	
Placer	Lincoln	Recycling Coordinator	Ralph Hitchcock	City Government	1530 3rd St, Ste 111	95648	(916) 645-3314			
Placer	Loomis	Recycling Coordinator	Patricia Astleford	City Government	P O Box 1327	95650	(916) 652-1840		x	
Placer	Rocklin	Recycling Coordinator	Debbie Plant	City Government	P O Box 1138	95677	(916) 632-4050			
Placer	Rocklin	Owner	Sharon Hayes	Rocklin Recycling & Surplus	901A Placer Blvd	95677	(916) 645-7300	x	x	x
Placer	Roseville	Recycling Coordinator	Ray Chambers	City Government	2005 Hilltop Circle	95747	(916) 774-5784	x	x	
Placer	Roseville	Co-Owner	Steve Covey	Roseville Recycling	508 1/2 Tahoe St	95678	(916) 783-0195	x		x
Placer	Tahoe City	Administrative Manager	Vince Nocito	Tahoe Truckee Containers Co, Inc	645 Westlake Blvd	95730	(916) 583-0148	x		x
Placer	Weimar	Co-Owner	Robert Martin	Weimar Auto Wreckers	21300 Canyon Way	95736	(916) 637-5524			
Plumas	Chester	Owner	Gerald Peterson	Peterson Enterprises	135 Main St	96020	(916) 258-3205	x		
Plumas	Chester	Owner	David Yates	Super Saver Supermarket	Hwy 36 Willow Way	96020	(916) 258-2881	x		x
Plumas	Portola	President	Ricky Ross	Intermountain Disposal Co, Inc	73980 Industrial Way Delleker	96122	(916) 832-4879	x	x	x
Plumas	Portola	Owner	Stanford Womack	Womack's Distributing	165 Taylor St	96122	(916) 832-4961			x
Plumas	Quincy	Recycling Coordinator	Steven Devin	County Government	P O Box 10437	95971	(916) 283-6420		x	
Plumas	Quincy	President	LeRoy Austin	Feather River Disposal	362 Crescent	95971	(916) 283-2065	x	x	x
Plumas	Quincy	Manager	Vicki Sutton	Tin Can Alley	1760 E Main	95971	(916) 283-1415			x
Riverside	Banning	CEO	Raymond Mucillo	Airway Scale & Mfg Co, Inc	1284 E Lincoln St	92220	(909) 849-8631		x	x
Riverside	Banning	Recycling Coordinator	Jan Wages	City Government	99 East Ramsey	92220-0998	(909) 922-0444	x	x	
Riverside	Beaumont	Recycling Coordinator	Douglas Fazikas	City Government	550 East 6th St	92223	(909) 845-1171		x	
Riverside	Blythe	Recycling Coordinator	Les Nelson	City Government	220 North Spring	92225	(619) 922-6161	x		
Riverside	Blythe	Public Works Director	Charles Hull	City Government	220 North Spring	92225	(619) 922-6161	x		
Riverside	Blythe	Recycling Coordinator	Nita Claypool III	Claypool Distributing Co	345 N Main St	92225	(619) 922-2435	x		x
Riverside	Calimesa	Recycling Coordinator	Dwayne Fessenden	City Government	P O Box 1190	92320	(909) 795-9801			
Riverside	Cathedral City	Special Projects Coordinator	Michael Cardona	City Government	P O Box 5001	92235	(619) 770-0372			
Riverside	Coachella	Recycling Coordinator	Rick Cervantes	City Government	1515 Sixth St	92236	(619) 398-3102	x		
Riverside	Coachella	President	Dick Agajanian	Dick's Salvage	48-100 Harrison St	92236	(619) 695-6710			
Riverside	Corona	Recycling Coordinator	Penny Braund	20-20 Recycling Centers	1731 Pomona Rd	91720	(909) 279-2200			x
Riverside	Corona	Recycling Coordinator	Ken Fischer	City Government	815 West Sixth St	91720	(909) 279-3516	x	x	
Riverside	Corona	Recycling Coordinator	Michael Hall	Liston Brick Co of Corona	20401 Temescal Canyon Rd	91719	(909) 277-4221			x

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Riverside	Corona	President	Gilberto Valenzuela	Six Pac Recycling Corp	1430 E 6th St	91719	(909) 734-2910	x		x
Riverside	Desert Hot Springs	Recycling Coordinator	Doug Fischer	City Government	65950 Pierson Blvd	92240	(619) 329-6411	x	x	
Riverside	Hemet	Integrated Waste Mgt Supvr	Robert L Fami	City Government	3777 Industrial Ave	92545	(909) 765-2319	x	x	
Riverside	Hemet	Recycling Coordinator	Wade Edge	City Government	3777 Industrial Ave	92545	(909) 765-2319			
Riverside	Hemet	General Manager	John Sasine	Waste Management of Inland Valley	26500 Scaramella Circle	92545	(909) 925-6561	x	x	x
Riverside	Indian Wells	Recycling Coordinator	Mel Windsor	City Government	44-950 El Dorado Dr	92210	(619) 346-2489	x	x	
Riverside	Indio	Recycling Coordinator	Joe Fiss	City Government	P O Drawer 1788	92202	(619) 342-6500			
Riverside	Indio	Recycling Coordinator	John Sparr	Heimark Recycling	82-851 Ave 45	92201	(619) 347-4052	x		x
Riverside	Indio	Recycling Coordinator	Tim Mercier	Mission Beverage Co	82355 Market St	92201	(619) 347-3561	x		x
Riverside	La Quinta	Recycling Coordinator	Fred Baker	City Government	78495 Calle Tampico	92253	(619) 777-7125		x	
Riverside	Lake Elsinore	Recycling Coordinator	Michael Jaywes	Alamo Recycling Co	217 N Main St	92530	(909) 674-4454	x	x	x
Riverside	Lake Elsinore	Owner	Larry Amsbry	Cans Plus Recycling	29170 Riverside Dr, Ste 1	92530	(909) 245-1178	x		x
Riverside	Lake Elsinore	Recycling Coordinator	Dave Kircher	City Government	130 South Main St	92530	(707) 674-3124			
Riverside	Mira Loma	Recycling Coordinator	Larry Eberlein	Recycling Service Centers	10457 Old Limonite Ave	91752-2644	(909) 685-2827			x
Riverside	Moreno Valley	Recycling Coordinator	Vince Carstensen	City Government	23119 Cottonwood	92553	(909) 243-3001		x	
Riverside	Moreno Valley	Partner	Donald Martin	Ecology Recycling Service	14093 Business Center Dr	92553	(909) 697-6751	x		x
Riverside	Murrieta	Co-Owner	David Weseloh	Rancho Metals & Supply/Rancho Recycling	41400 Date St	92562	(909) 677-8586		x	x
Riverside	Norco	Recycling Coordinator	Joseph Shenk	City Government	2870 Clark Ave	91760	(909) 735-3900		x	
Riverside	Palm Desert	Recycling Coordinator	John Wolmuth	City Government	73-510 Fred Waring Dr	92260	(619) 346-0611	x	x	
Riverside	Palm Desert	Recycling Coordinator	Kathy Mitchell	Recycle America	41800 Corporate Way	92260	(619) 340-2113	x	x	x
Riverside	Palm Springs	Recycling Coordinator	Susan Flint	City Government	P O Box 2743	92263	(619) 323-8197	x	x	
Riverside	Palm Springs	Recycling Coordinator	Richard West	Palm Springs Disposal Services	4690 E Mesquite Ave	92264	(619) 327-1351	x		
Riverside	Palm Springs	President	Rick Bracamonte	Palm Springs Recycling Center, Inc	280 Oasis Rd	92262	(619) 325-3377	x	x	x
Riverside	Perris	Recycling Coordinator	Lola Handy	City Government	101 North D St	92370	(909) 943-6100	x	x	
Riverside	Perris	Recycling Coordinator	Howard Levson	Newsco Recycling	703 E 4th St	92570	(909) 657-9811			
Riverside	Perris	Owner	Tracey Stone	Newsco Recycling	703 E 4th St	92370	(909) 657-9811			
Riverside	Rancho Mirage	Recycling Coordinator	Cathy Mitton	City Government	69-825 Highway 111	92270	(619) 324-4511		x	
Riverside	Riverside	President	Daniel Augustine	Augustine Metals, Inc	3759 Placentia Ln	92501	(909) 682-8102			
Riverside	Riverside	Vice President	B P Hanrath	Beverage Container Recycling, Inc	2287 Business Way	92324	(909) 781-8810	x		x
Riverside	Riverside	Recycling Coordinator	Harold Duffy	City Government	3900 Main St	92522	(909) 782-5967	x	x	
Riverside	Riverside	Recycling Coordinator	Michael Schier	County Government	1995 Market St	92501	(909) 275-8796	x	x	
Riverside	Riverside	Recycling Specialist	Gary Anderson	County Government	1995 Market St	92501	(909) 275-8796	x	x	
Riverside	Riverside	Recycling Coordinator	Lula Eberlein	D & L Metals	6565 Mission Blvd	92509	(909) 681-2525			
Riverside	Riverside	Vice President/ Sales & Marketing	Richard Graff	ENVIPCO	4775 Brookhollow Circle	92509	(909) 360-3490	x		x
Riverside	Riverside	Sale/Marketing Vice President	Richard Graff	ENVIPCO California, Inc	4775 Brookhollow Circle	92509	(800) 275-9449	x		x
Riverside	Riverside	Owner	Larry Eberlein	Recycling Services Centers	8566 Limonite Ave	92509	(909) 685-4430	x		x
Riverside	Riverside	Vice President	Daniel Frankel	Riverside Scrap Iron & Metal Corp	2993 6th St	92507	(909) 686-2120			x
Riverside	Romoland	Recycling Coordinator	Steve Andrews	Sun City Recycling Center	27793 Jackson Ave	92380	(909) 928-1990	x		x
Riverside	San Jacinto	Recycling Coordinator	Dave Anderson	City Government	312 E Main St	92583	(909) 654-7337	x		
Riverside	Temecula	Public Works Director	Tim Serlet	City Government	43174 Business Park Dr	92590	(909) 694-1989		x	
Riverside	Thermal	President	David Sanchez	Apple Markets, Inc	65959 Hwy 86	92274	(619) 397-4279			
Sacramento	Citrus Heights	Owner	Raissi Jahanbakhsh	Farmers Country Market	7672 Greenback Ln	95610	(916) 725-4001			
Sacramento	Elk Grove	Owner	Monte Stanley	Recycle America	P O Box 1162	95759	(916) 686-6136	x		x
Sacramento	Folsom	Recycling Coordinator	Kevin Miller	City Government	50 Natoma St	95630	(916) 985-0738	x	x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Sacramento	Galt	President	Yolanda Maraspini	Galt Recyclers	13208 B Stockton Blvd	95632	(209) 463-4857	x	x	x
Sacramento	North Highlands	Recycling Coordinator	Kelly Durose	D C Metals	6849 28th St	95660	(916) 344-0862	x		x
Sacramento	North Highlands	General Manager	Gary Fisher	Highlands Recycling	2745 Elkhorn Blvd	95660	(916) 334-0363			
Sacramento	Orangevale	Partners	Douglas Carrier	Blue Frog Recycling Center	6448 Main Ave	95662	(916) 988-8778	x		x
Sacramento	Orangevale	Owner	Mariano Gutierrez	Bottle Can Recycling	8986 Greenback Ln	95662	(916) 989-0576			x
Sacramento	Rancho Cordova	Recycling Coordinator	Bob Munchie	California Recycling Centers	10089 B Folsom Blvd	95670	(916) 361-1474			x
Sacramento	Rancho Cordova	Manager	Bill Whitman	Simms/ LMC Recycling Centers	11320 Dismantle Court	95670	(916) 635-5600	x		x
Sacramento	Rancho Murieta	Owner	Donald Johnson	Don Johnson Recycling	8947 Grant Line Rd	95624	(916) 687-7139	x		x
Sacramento	Rio Linda	Owner	James Cramblit	A-1 Metals Co	2655 Elkhorn Blvd	95673	(916) 991-5808			
Sacramento	Sacramento	Owner	Burdell Wulf	A & A Salvage, Inc	7933 18th Ave	95826	(916) 451-8896			x
Sacramento	Sacramento	Recycling Coordinator	Scott Emery	Alcoa Recycling Co, Inc	801 Richards Blvd	95814	(916) 442-1820			
Sacramento	Sacramento	Owner	Santiago Rivera	American Recycling Center	4545 Auburn Blvd	95841	(916) 487-6016	x		x
Sacramento	Sacramento	Owner	Michael Basile Jr	Atlas Metals, Inc	30 Arden Way	95815	(916) 929-7331			
Sacramento	Sacramento	Owner	Fred Ehly	California Recycling Centers	3201 Marysville Blvd	95815	(916) 925-7649			
Sacramento	Sacramento	Waste Reduction Coordinator	Gary Van Dorst	City Government	915 10th St, Ste 500	95814	(916) 264-7561	x	x	
Sacramento	Sacramento	Waste Reduction Coordinator	John Souza	City Government	915 10th St, Ste 500	95814	(916) 264-5557	x	x	
Sacramento	Sacramento	Residential Recycling Coord	Traci Bjers	County Government	9700 Goethe Rd, Ste E	95827	(916) 366-4296	x	x	
Sacramento	Sacramento	Recycling Coordinator	Daniel Regan	County Government	9700 Goethe Rd, Ste E	95827	(916) 366-2625	x	x	
Sacramento	Sacramento	Recycling Specialist	Doug Eubanks	County Government	9700 Goethe Rd, Ste E	95827	(916) 366-2625	x	x	
Sacramento	Sacramento	Recycling Education Specialist	Tracy Schneid	County Government	9700 Goethe Rd, Ste E	95827	(916) 885-5665	x	x	
Sacramento	Sacramento	Composting Specialist	Steve Harriman	County Government	9700 Goethe Rd, Ste E	95827	(916) 855-5666	x	x	
Sacramento	Sacramento	Vice President	Gavin Wilson	Empire Recycling, Inc	2089 Acoma St	95815	(916) 925-8264	x		
Sacramento	Sacramento	Owner	Kenny Luong	Mings Metal Recycling	3300 47th Ave	95824	(916) 421-5054		x	x
Sacramento	Sacramento	President	Gabriel & Ramiro Casillas	Pacific Coast Wastepaper Co, Inc	7851 14th Ave	95826	(916) 456-0873			
Sacramento	Sacramento	Owner/Manager	Kamran Tali	Pro Auto Sales	1562 Auburn Blvd	95815	(916) 923-9590			x
Sacramento	Sacramento	Owner	Stanley Chu	Progressive Metals Co	4701 24th St, Ste B	95822	(916) 736-0238		x	x
Sacramento	Sacramento	Partners	Thomas C & Daniel Tobin	Recycling Barn	5757 Auburn Blvd	95841	(916) 339-1469	x	x	x
Sacramento	Sacramento	President	Scott Kuhnen	Recycling Industries, Inc	3300 Power Inn Rd	95826	(916) 452-3961	x		x
Sacramento	Sacramento	Recycling Coordinator	Brad Vasquez	Reynolds Aluminum Recycling Co	8100 Signal Ct	95824	(916) 381-6861	x	x	x
Sacramento	Sacramento	Executive Director	Gary Van Dorst	Sacramento Local Conservation Corps	4700 College Oak Dr	95841	(916) 386-8394	x	x	
Sacramento	Sacramento	Recycling Coordinator	Alice O'Sullivan	Sacramento Valley Recycling	8761 Younger Creek Dr	95828	(916) 387-1400	x		x
Sacramento	Sacramento	Manager	Bill Whitman	Simms/ LMC Recycling Centers	130 N 12th St	95814	(916) 444-3380			x
Sacramento	Sacramento	Recycling Coordinator	Rich Garmsen	Smerfit Recycling Co	4800 Florin-Perkins Rd	95826	(916) 381-3340	x		x
Sacramento	Sacramento	Recycling Coordinator	Robert Wilson	Smerfit Recycling Co	325 N 7th St	95814	(916) 441-0150	x		x
Sacramento	Sacramento	President	Ping-Chi Mao	Sunshine Steel Enterprises Corp	8265 Belvedere Ave	95826	(916) 455-8371			x
Sacramento	Sacramento	Owner/Manager	Travis Reid	Travis Reid Recycling	5964 Devecchi Ave	95621	(916) 331-1810			
San Benito	Hollister	Owner	Manuel Angulo	Angulo Recycling	810 East St	95023	(408) 637-1321			
San Benito	Hollister	Recycling Coordinator	Dan Holsapple	City Government	110 E Fifth St	95023	(408) 637-5544		x	
San Benito	Hollister	Recycling Coordinator	Jim Todd	County Government	3220 Southside Rd	95023	(408) 637-3725			
San Benito	Hollister	Recycling Coordinator	Robert Rodriguez	San Benito Recycling Center	10 4th St	95023	(408) 636-1806	x		x
San Benito	Hollister	Proprietor	Ron Carrillo	South Valley Recycling	60 San Felipe Rd	95023	(408) 637-3689			
San Benito	San Juan Bautista	Recycling Coordinator	Marlene Dwyer	City Government	P O Box 484	95045	(408) 623-2176	x	x	
San Bernardino	Adelanto	Recycling Coordinator	Vacant	City Government	11600 Air Base Rd	92301	(619) 246-8606		x	
San Bernardino	Apple Valley	Recycling Coordinator	Jim Sophy	City Government	P O Box 429	92307	(619) 240-7513	x		

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Bernardino	Apple Valley	Recycling Coordinator	Joyce Russell	Clean Earth Recycling Center	20947 Bear Valley Rd	92308	(619) 240-3858	x		x
San Bernardino	Barstow	Owner	Jack Monzingo	Barstow Recycling	130 Eastgate Rd	92311	(619) 255-2267	x		x
San Bernardino	Barstow	Owner	Beverly Saulman	Bob's Recycling Center	1605 State St, Ste 1	92311	(619) 256-1204			x
San Bernardino	Barstow	Recycling Coordinator	John Brand	City Government	220 East Mountain View	92311	(619) 256-3531	x		
San Bernardino	Big Bear Lake	Recycling Coordinator	Don Veith	City Government	39707 Big Bear Blvd	92315	(909) 866-7521	x	x	
San Bernardino	Bloomington	Owner	James Lucero	All Metals-R-Us Recycling	10065 Alder Ave	92316	(909) 877-8785	x		x
San Bernardino	Buelton	Owner	Joseph Airey	Industrial Salvage	71 Industrial Way	93427	(805) 688-2036	x		x
San Bernardino	Chino	Recycling Coordinator	Marcia Godwin	City Government	13220 Central Ave	91710	(909) 590-5526	x	x	
San Bernardino	Chino Hills	Recycling Coordinator	Nancy Reid	City Government	2001 Grand Ave	91790	(909) 590-1511	x	x	
San Bernardino	Colton	Recycling Coordinator	Julia Yoon	Cannco Recycling	1224 N Mt Vernon Ave	92324	(909) 825-8223	x		x
San Bernardino	Colton	Recycling Contact	John Hutton	City Government	160 South 10th St	92324	(909) 370-6109			
San Bernardino	Colton	Recycling Coordinator	Gil Gonzales	City Government	160 South 10th St	92324	(909) 370-6145			
San Bernardino	Colton	Administrative Analyst	Helen Cortez	City Government	160 S 10th St	92324	(909) 370-6132	x	x	x
San Bernardino	Colton	Owner	George Flood	Court Yard Recycling Center	1250 E Washington	92324	(909) 423-0111	x	x	
San Bernardino	Fontana	Director of Recycling	Steve Campanella	Burtec Waste Industries, Inc	9890 Cherry Ave	92335	(909) 987-3717	x	x	x
San Bernardino	Fontana	Recycling Coordinator	Curtis Aaron	City Government	8353 Sierra Ave	92334	(909) 350-7600	x	x	
San Bernardino	Fontana	Owner	Leo Frankel	Frankel Iron & Metal Co	15615 Arrow Blvd	92335	(909) 823-3431			
San Bernardino	Fontana	Owner	Jorge Torres	Wanka Recycling Center	15908 Valley Blvd	92335	(909) 355-5343			x
San Bernardino	Grand Terrace	Recycling Coordinator	Randy Astine	City Government	22975 Barton Rd	92324	(909) 824-6621			
San Bernardino	Grand Terrace	Recycling Coordinator	Sally Frey	Golden Aluminum Co	21506 Main St	92324	(909) 788-4101		x	
San Bernardino	Hesperia	Recycling Manager	Paul Abdouch	Advance Disposal Co	17105 Mesa	92345	(619) 244-9773	x	x	x
San Bernardino	Hesperia	Owner	Raymond Morgan	A-1 Auto Dismantlers	10651 E Ave	92345	(619) 947-5522	x		x
San Bernardino	Hesperia	Owner/ CEO	David Lewinson	CAPS Unlimited	11099 G Ave	92345	(619) 947-3099			x
San Bernardino	Hesperia	Recycling Coordinator	Kenneth Hubler	City Government	P O Box 407000	92345-7000	(619) 947-1000	x	x	
San Bernardino	Hesperia	Owner	Michael McGettrick	Victor Valley Recycling	17491 Lilac St	92345	(619) 244-7224	x		x
San Bernardino	Highgrove	Recycling Coordinator	Steven McKinley	McKinley's Recycling	983 Center St	92507	(909) 683-6981	x	x	x
San Bernardino	Highland	Recycling Coordinator	Larry Williams	City Government	26985 Baseline	92346	(909) 864-6861		x	
San Bernardino	Hinkley	President	Manuel Gonzalez	Avalon Salvage, Inc	24399 Hwy 58	92347	(619) 253-7408			
San Bernardino	Loma Linda	Recycling Coordinator	Al Cablay	City Government	25541 Barton Rd	92408	(909) 799-2800	x	x	
San Bernardino	Lucerne Valley	Recycling Coordinator	Douglas Butterick	Can Heaven Redemption Center	31724 Furst	92356	(619) 248-9261	x		
San Bernardino	Montclair	Recycling Coordinator	Antoinette Foti	City Government	5111 Benito St	91763	(909) 626-8571	x	x	
San Bernardino	Needles	City Manager	Leon Burger	City Government	P O Box 887	92363	(619) 326-2113		x	
San Bernardino	Needles	Partner	W M Claypool III	Claypool Distributing Co	725 Broadway	92363	(619) 326-2110	x	x	x
San Bernardino	Ontario	Recycling Coordinator	Mark Sorenson	City Government	1425 South Bon View	91761	(909) 391-2507	x	x	
San Bernardino	Ontario	Chairman of the Board	Joong Lee	J Lee's Metals, Inc	840 E State St	91761	(909) 986-1996			
San Bernardino	Ontario	President	Wayne Young	Main Street Fibers, Inc	608 E Main St	91761	(909) 986-6310			
San Bernardino	Ontario	Vice President	Harrie Cohen	Ontario Metal Recycling	717 S Taylor Ave	91761	(909) 983-0655	x	x	x
San Bernardino	Phelan	Recycling Coordinator	Douglas Sangraw	Can Heaven Redemption Center	7679 Goss Rd, Ste 165	92371	(619) 868-6034			
San Bernardino	Phelan	Owner	Marlon Pearson	Country Can Recycling	4359 Phelan Rd	92371	(619) 868-4100	x		x
San Bernardino	Rancho Cucamonga	President	James Pei-Yuan Lin	All State Paper & Metals Recycling Co, Inc	13195 Whittram Ave	91739	(909) 899-3613			
San Bernardino	Rancho Cucamonga	Recycling Coordinator	Mike Tuley	Aseptic Packaging Council	8560 Vineyard Ave, Ste 306	91730	(909) 980-1373	x	x	
San Bernardino	Rancho Cucamonga	Recycling Coordinator	Jolen Russo	City Government	10500 Civic Center Dr	91730	(909) 989-1851	x	x	
San Bernardino	Rancho Cucamonga	President	Lew Daniels	Daniels Component Exchange, Inc	9529 8th St	91730	(909) 944-0025	x	x	x
San Bernardino	Rancho Cucamonga	Regional Manager	John Griffin	Reynolds Aluminum Recycling Co	9375 Archibald Ave, Ste 200	91730	(909) 980-8795	x	x	

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Bernardino	Redlands	Recycling Coordinator	John Davis	City Government	700 East Redlands	92373	(909) 793-3877	x	x	
San Bernardino	Redlands	Recycling Coordinator	Larry Williams	City Government	P O Box 3005	92373	(909) 798-7529		x	
San Bernardino	Rialto	Recycling Coordinator	Elaine Newman	City Government	150 South Palm	92376	(909) 421-7221	x	x	
San Bernardino	Running Springs	President	Joseph Harich	Harich Construction Co	29898 State Hwy 18	92382	(909) 867-2483	x		x
San Bernardino	San Bernardino	Recycling Coordinator	Rex Richardson	County Government	22 W Hospitality Ln, 2nd Fl	92415-0017	(909) 386-8710	x	x	x
San Bernardino	San Bernardino	Recycling Coordinator	Kevin Barnes	City Government	300 North D St	92418	(909) 384-5053	x	x	
San Bernardino	San Bernardino	Education Specialist	Jennifer Benzakein	County Government	222 West Hospitality Ln, 2nd Fl	92415-0017	(909) 386-8713	x	x	
San Bernardino	San Bernardino	Committee Govt Task Force	Joanne Wilson	County Government	222 West Hospitality Ln, 2nd Fl	92415-0017	(909) 386-8703	x		
San Bernardino	San Bernardino	VP of Industrial & Retail Op	Robert Moors	Goodwill Industries	8120 Palm Ln	92410	(909) 885-3831	x		x
San Bernardino	San Bernardino	Vice President	Marlene Main	Main Fiber Products, Inc	777 W Rialto Ave	92410	(909) 885-1413			
San Bernardino	San Bernardino	Manager	Donald Ruben	San Bernardino Recycling Center	144 South G St	92410	(909) 889-0626			
San Bernardino	Twentynine Palms	Recycling Coordinator	Hart Ponder	City Government	P O Box 995	92277	(619) 367-6799		x	
San Bernardino	Upland	President	William Simmonds	Aesop Bros, Inc	1684 Lakewood Ave	91784	(909) 985-4220			
San Bernardino	Upland	Recycling Coordinator	Jose Cueves	A-1 Upland Recycling	1248 W 9th St	91786	(909) 982-1044			
San Bernardino	Upland	Recycling Coordinator	Howard Morris	City Government	1370 North Benson	91786	(909) 982-1352	x	x	
San Bernardino	Victorville	Recycling Coordinator	Patrick Rodriguez	American Best Household Recycling	17229 Gasline Rd	92392	(619) 955-6993	x	x	
San Bernardino	Victorville	General Manager	Gary Barnes	Victorville Disposal, Inc	17080 Stoddard Wells Rd	92392	(619) 245-5426	x	x	x
San Bernardino	Yucca Valley	Recycling Coordinator	Sue Suda	City Government	57090 29 Palms Hwy	92284	(619) 369-7207			
San Bernardino	Yucca Valley	Recycling Coordinator	Debbie Steiner	Hi Desert Recycling	55525 Yucca Dr	92284	(619) 365-1935	x	x	x
San Diego	Campo	Recycling Operator	Carolyn Clifford	Rock Mountain Recycling	32102 Hwy 94	91906	(619) 478-9211			x
San Diego	Carlsbad	Recycling Coordinator	Larry Willey	City Government	2075 Las Palmas Dr	92009	(619) 438-7753	x	x	
San Diego	Chula Vista	Recycling Coordinator	Athena Bradley	City Government	276 Fourth Ave	91910	(619) 691-5031	x	x	
San Diego	Chula Vista	General Recycling	Ron Stanley	City Government	276 Fourth Ave	91910	(619) 691-5031	x	x	
San Diego	Chula Vista	Household Hazardous Materials	Monika Malkovitz	City Government	276 Fourth Ave	91910	(619) 691-5031	x	x	
San Diego	Chula Vista	Commercial Recycling	Garth Nagel	City Government	276 Fourth Ave	91910	(619) 691-5031			
San Diego	Chula Vista	Owners	John & Carole Marquez	J & C Auto Recycling	3513 Main St	91911	(619) 585-4870		x	x
San Diego	Chula Vista	Partners	Larry O'Harra & Jorge Holland	Otay Buy Back Center	1751 Maxwell	91911	(619) 234-3001			x
San Diego	Chula Vista	General Partner	Jorge Holland	Pacific Non-Ferrous	199 1/2 Mace St	92011	(619) 585-1108	x		x
San Diego	Chula Vista	President	Steve Reed	Paul Brown South Bay Recycling	Reed Ct	91911	(619) 425-7197		x	x
San Diego	Coronado	Recycling Coordinator	Jane McNamara	City Government	1300 First St	92118	(619) 522-7380	x	x	
San Diego	Del Mar	Recycling Coordinator	Craig Teschendorf	Liberty Recycling	2265 Jimmy Durante Blvd	92014	(619) 431-0101		x	x
San Diego	Del Mar	Recycling Coordinator	Joe Hoefgen	City Government	1050 Camino Del Mar	92014	(619) 755-9313	x	x	
San Diego	El Cajon	President	Jerry Turchin	California Metals, Inc	297 S Marshall Ave	92020	(619) 444-3111			x
San Diego	El Cajon	Recycling Coordinator	Kathi Hubert	City Government	200 East Main St	92020	(619) 441-1718			
San Diego	El Cajon	Administrative Asst	July Miller	Miller Metals Co	636 Front St	92020	(619) 444-2136	x		
San Diego	Encinitas	Recycling Coordinator	Stuart Schillinger	City Government	5050 South Vulcan	92024	(619) 633-2610			
San Diego	Escondido	Recycling Coordinator	Teri Edelbrock	City Government	201 North Broadway	92025	(619) 741-4631	x	x	
San Diego	Escondido	Recycling Specialist	Jeanne Funk	City Government	201 North Broadway	92025	(619) 741-4818	x	x	
San Diego	Escondido	Owner	John Groff	Escondido Recycling Yard	1350 W Mission Rd	92029	(619) 745-4832			x
San Diego	Escondido	Owner	Anthony Rastello	Skyline Recycling Co	538 N Quince St	92025	(619) 741-5236	x		x
San Diego	Fallbrook	Owners	Coy Smalty Richard Aldrett	Edco Disposal San Diego Recycling	6700 Federal Blvd	91945	(619) 287-5612			
San Diego	Imperial Beach	Environmental Programs Mgr	Kip Sturdevan	City Government	825 Imperial Beach Blvd	91932	(619) 423-8311	x	x	
San Diego	La Jolla	President	Deborah Weber	California Recycling Enterprises 55, Inc	1255 Coast Blvd	92037	(619) 459-9481			
San Diego	La Mesa	Environmental Specialist	Carol McLaughlin	City Government	4975 Memorial Dr	91941	(619) 462-3936	x	x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Diego	La Mesa	Recycling Coordinator	Sandra Shultz	City Government	4975 Memorial Dr	91941	(619) 463-6611	x	x	
San Diego	Lakeside	Partner	James Reynolds	Quality Recycling	10197 Suite A Riverford	92040	(619) 286-1923	x		x
San Diego	Lemon Grove	Director of Recycling	Jaycy McReynolds	Edco Disposal San Diego Recycling	6700 Federal Blvd	91945	(619) 287-5612	x	x	x
San Diego	National City	President	Jerry Williams	ABC Metals, Inc	1401 Cleveland Ave	92050	(619) 474-1727			
San Diego	National City	President	Donald Humphries	Ace Metal Recycling Company, Inc	720 W 23rd St	92050	(619) 474-8523			x
San Diego	National City	Recycling Coordinator	Jim Philipps	Bay Cities Services, Inc	1300 Wilson Ave	91950	(619) 477-2200		x	x
San Diego	National City	Recycling Coordinator	C R Williams	City Government	2100 Hoover Av	92050	(619) 336-4360		x	
San Diego	National City	Owner	Antonio Chavarria	Tony & Son	2923 Prospect St	92050-7618	(619) 477-0835			
San Diego	Ocean Beach	Owner	Michael Regan	O B Recycling	2204 Sunset Cliffs Blvd	92107	(619) 523-1259	x		x
San Diego	Ocean Beach	Partner	Daniel Regan	Regan Recycling Enterprises	2204 Sunset Cliffs Blvd	92107	(619) 275-0732			x
San Diego	Oceanside	Recycling Coordinator	Ester Rilea	City Government	4925 Oceanside Blvd	92056	(619) 966-4500	x	x	
San Diego	Oceanside	Recycling Coordinator	Jeff Ormsbee	Waste Management of North County	2141 Oceanside Blvd	92054	(619) 439-2824			
San Diego	Poway	Recycling Coordinator	Alan Archibald	City Government	13325 Civic Center Dr	92064	(619) 748-6600	x		
San Diego	Ramona	General Manager	Victoria Tobiason	Jemco Equipment Corp	110 14th St	92065	(619) 789-0516	x	x	
San Diego	Ramona	Owner	Ronald Richardson	Richardson Recycling	125 10th & B St	92065	(619) 477-3866			x
San Diego	San Diego	Office Manager	Ellen Goetze	Advanced Recycling, Inc	8720 Miramar Pl	92121	(619) 452-6036	x		
San Diego	San Diego	Owner	Cal Johnson	American Recycling	4323 Home Ave	92105	(619) 463-1921			x
San Diego	San Diego	Director of Operations	Jerry Meier	Boys Clubs of San Diego	3760 Fourth Ave, Ste 1	92103	(619) 298-3520			
San Diego	San Diego	Recycling Specialist	Gerry Davenport	City Government	4950 Murphy Canyon Rd	92123	(619) 492-5010	x	x	
San Diego	San Diego	Recycling Specialist	Maureen Dixon	City Government	4950 Murphy Canyon Rd	92123	(619) 492-5010	x	x	
San Diego	San Diego	Recycling Specialist	Steven Grealy	City Government	4950 Murphy Canyon Rd	92123	(619) 492-5010	x	x	
San Diego	San Diego	Recycling Specialist	Janet Whited	City Government	4950 Murphy Canyon Rd	92123	(619) 492-5010	x	x	
San Diego	San Diego	Recycling Coordinator	Jerry D'Onofrio	City Government	4950 Murphy Canyon Rd	92123	(619) 492-5010		x	
San Diego	San Diego	Principal Program Mgr	Rick Anthony	County Government	5555 Overland Ave, MS 0383	92123	(619) 974-2606		x	
San Diego	San Diego	Program Coordinator	Trish Ferrand	County Government	5555 Overland Ave, MS 0383	92123	(619) 974-2629		x	
San Diego	San Diego	Program Coordinator	Nelson Olivas	County Government	5555 Overland Ave, MS 0383	92123	(619) 974-2652		x	
San Diego	San Diego	Recycling Coordinator	Pam Cortelyou	County Government	5555 Overland Ave, MS 0383	92123	(619) 974-2676		x	
San Diego	San Diego	President	Kerry Kessler	Enviroworld, Inc	3204 Shadowlawn St	92110	(619) 698-1796			
San Diego	San Diego	Personnel Director	Vance Ruka	Goodwill Industries	402 Fifth Ave	92101	(619) 232-6781		x	x
San Diego	San Diego	Corp Secretary	Mark Watton	How, Inc	412 Crosby St	92112	(619) 234-8744			
San Diego	San Diego	Recycling Operator	Mike Tohmetz	IMS Recycling Services, Inc	1345 S 27th St	92170	(619) 231-2521			x
San Diego	San Diego	Owner	Lance Masi	Lance Recycling, Inc	3151 Manin St	91911	(619) 585-0104			
San Diego	San Diego	Owner	Miguel Hernandez	Mikes Recycling Center	2284 Palm Ave	92154	(619) 423-4407			
San Diego	San Diego	Partner	Saad Hirmz	Miller's Market	2985 St, Ste C	92102	(619) 234-0694			x
San Diego	San Diego	Owners	Gerardo & Nancy Ortiz	National Recycling Center	3008 National Ave	92113	(619) 696-9727			
San Diego	San Diego	General Manager	Gary McGrath	Paper Recovery of San Diego, Inc	5222 Lovelock St	92110	(619) 291-5257		x	x
San Diego	San Diego	Owner	Khalid Peter	Peter Recycling	3055 Fairmonut Ave	92105	(619) 697-9976			
San Diego	San Diego	Manager	Paul Ungar	Regan Recycling Enterprises	4180 Clairmont Mesa Blvd	92117	(619) 270-7424		x	x
San Diego	San Diego	Operations Manager	Skeeter Jones	Reliable Waste	1412 Crosby St	92113	(619) 425-6444			x
San Diego	San Diego	President	Mario Cadena Sr	San Diego Fibres Corp	4040 Lockridge St	92102	(619) 262-8090		x	
San Diego	San Diego	Manager	Jesus Carrillo	SMURFIT Recycling Co	7844 Armour St	92113	(619) 239-2046	x	x	
San Diego	San Diego	Owner	Frank Sosa Sr	Sosa's Recycling Center	3575 N Euclid Ave	92105	(619) 282-9827			
San Diego	San Diego	Owner	Paul Lewis	Universal Recycling	14494 B Mast Blvd	92125	(619) 448-4295			x
San Diego	San Marcos	Recycling Coordinator	Paul Malone	City Government	105 W Richmar	92069	(619) 591-7777	x	x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Diego	Santee	Recycling Coordinator	Jim Stoner	City Government	10765 Woodside Ave	92071	(619) 258-4130	x	x	
San Diego	Santee	Owner	Donna Kimmel	Easy Recycling & Metals	11440 N Woodside Ave	92071	(619) 562-2800	x	x	x
San Diego	Solana Beach	Recycling Coordinator	Tom Ritter	City Government	380 Stevens Ave, Ste 305	92705	(619) 755-2998		x	
San Diego	Spring Valley	Owner	Cal Johnson	American Recycling	1636 Coronado Ave	91977	(619) 463-1921			x
San Diego	Spring Valley	Executive Assistant	Karen Williams	Fibre Resources Unlimited, Inc	3833 Bancroft Dr	91977-2122	(619) 462-0098			x
San Diego	Spring Valley	Manager	Ed Cook	Spring Valley Recycling	2900 Bancroft Dr	92077	(619) 231-9666			
San Diego	Vista	Recycling Coordinator	Norm Ginsburg	City Government	1165 E Taylor St	92084	(619) 726-1340			
San Diego	Vista	Co-Owner	Jim Lee	Lee's Iron & Metal	1315 Lee Dr	92083	(619) 724-1330			x
San Diego	Vista	Joint-Owner	David Batts	North County Recycling Center	757 N Santa Fe Ave	92083	(619) 941-1498	x		
San Diego	Vista	President	Gregory Reynolds	Reybro, Inc	1661 W Vista Way	92083	(619) 724-2131			x
San Francisco	San Francisco	Recycling Coordinator	Genevieve Hom	Aseptic Packaging Council	100 Pine St, Ste 2025	94111	(415) 777-0725	x	x	
San Francisco	San Francisco	Owner	Douglas Golub	Bay Area Metals	3201 Third St	94124	(415) 826-2311			x
San Francisco	San Francisco	Recycling Operator	Sal Castellanos	Bayshore Salvage Co	Tunnel Ave and Beatty Rd	94134	(415) 467-0567			x
San Francisco	San Francisco	Secretary and Treasurer	Walt Woodall	Circosta Iron & Metal Co, Inc	1801 Evans Ave	94124	(415) 282-8568			
San Francisco	San Francisco	Recycling Coordinator	Roopal Rawal	City Government	1145 Market St, Ste 401	94102	(415) 554-3400	x	x	
San Francisco	San Francisco	Recycling Coordinator	Roopal Rawal	County Government	1145 Market St, Ste 401	94102	(415) 554-3400	x	x	
San Francisco	San Francisco	Director	Ed Dunn	Haight-Ashbury Neighborhood Council	Frederick & Arguello	94117	(415) 753-0932	x	x	x
San Francisco	San Francisco	President	June Tran Vahn	Metal Recycling, Inc	1438 Donner Ave	94124	(415) 822-9096		x	x
San Francisco	San Francisco	General Manager	Nanci Dempsey	Norcal Recycling Buy-Back Centers	1900 17th St	94103	(415) 252-7388			
San Francisco	San Francisco	Vice President	June Tran Vahn	Paper Rush Co, Inc	2372 Jerrold Ave	94124	(415) 282-2344		x	x
San Francisco	San Francisco	Owner	Richard Navarro	Refund Recycle Center	2680 Old First St	94550	(415) 750-2046			
San Francisco	San Francisco	Operating Manager	Jim Austin	Richmond Environmental Action	249 Anza	94118	(415) 387-3117	x	x	x
San Francisco	San Francisco	Administrative Asst	Felicity Fonseca	San Francisco Community Recyclers	780 Frederick St	94117	(415) 731-6720	x	x	x
San Francisco	San Francisco	Owner	Harvey Good	San Francisco Scrap Metal Co	99 Mississippi St	94107	(415) 863-3508			
San Francisco	San Francisco	President	John Gerber	Wastepaper, Inc	998 Indiana St	94107	(415) 550-7500		x	x
San Francisco	San Francisco	General Manager	Maureen Hart	West Coast Salvage & Recycling	350 Rhode Island	94103	(415) 621-3840			x
San Joaquin	Escalon	Recycling Coordinator	Gerri Andrade	City Government	P O Box 248	95320	(209) 838-3556	x	x	
San Joaquin	Escalon	Operator	Robert Schul	Union Rentals Recycling	1728 California St	95320	(209) 838-7320			
San Joaquin	Lathrop	Recycling Coordinator	Cleve Morris	City Government	16775 Howland Rd	95330	(209) 858-2041	x	x	
San Joaquin	Lathrop	Manager	Ed Junqueiro	Lathrop Recycle	1920 E Park St	95330	(209) 858-4546			x
San Joaquin	Lathrop	Owner	John Maraspini	Manteca Recycling Center	1357 E Louise	95335	(209) 239-0838	x	x	x
San Joaquin	Lathrop	Marketing Manager	Jack Force	Proler International	15332 S McKinley	95330	(209) 858-2458	x	x	x
San Joaquin	Lodi	Recycling Coordinator	Susan Holmquist	California Waste Removal Systems, Inc	1333 E Turner Rd	95240	(209) 369-8274	x	x	x
San Joaquin	Lodi	Recycling Coordinator	Kirk Evans	City Government	221 W Pine St	95240	(209) 333-6801	x		
San Joaquin	Lodi	Owner	Ruth Davis	Tokay Recycling Center	60 S Cluff Ave	95240	(209) 339-4990		x	x
San Joaquin	Manteca	Owner	Alzada DeRose	99 Recycling Center	430 Moffat Blvd	95336	(209) 823-7711			x
San Joaquin	Manteca	Owner	John Maraspini	Ceres Recycling Center	346 Moffat Blvd	95336	(209) 823-3370	x	x	x
San Joaquin	Manteca	Resource Conservation Coord	Katherine Holmes	City Government	1001 W Center St	95336	(209) 825-8460	x	x	
San Joaquin	Ripon	Administrative Asst	Debbie Fortino	City Government	259 N Wilma Ave	95366	(209) 599-4067	x	x	
San Joaquin	Stockton	Recycling Coordinator	Fred Patterson	City Government	425 N El Dorado, Rm 317	95202-1997	(209) 944-8831	x	x	
San Joaquin	Stockton	Recycling Coordinator	Kirsten Liske	County Government	P O Box 1810	95201	(209) 468-3000	x	x	
San Joaquin	Stockton	President	Joseph Betts	Delta Paper Stock Co	401 S Lincoln St	95203	(209) 943-8608	x	x	x
San Joaquin	Stockton	President	Mike Gold	Gold & Son, Inc	1000 S Aurora St	95206	(209) 948-8699	x	x	
San Joaquin	Stockton	Recycling Supervisor	Ted Bogetti	Goodwill Industries	129 S Grant St	95202	(209) 466-2311			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Joaquin	Stockton	Plant Manager	David Rogers	Simsmetal USA Corp	1000 S Aurora St	95206	(209) 948-6699	x	x	
San Joaquin	Stockton	Buyer	Mike Gold	Sismetal USA Corp	1000 S Aurora St	95206	(209) 466-6875	x	x	
San Joaquin	Stockton	Owner	Glenda Coots	Stockton Recycling Center	2404 S California	95206	(209) 462-2543			
San Joaquin	Stockton	President	Jamie Williams	Stockton Recycling, Inc	1533 Waterloo Rd	95205	(209) 942-2267	x		x
San Joaquin	Stockton	Manager	David Ianni	Stockton Scavenger Assoc	1240 Navy Dr	95206	(209) 946-5721	x	x	
San Joaquin	Stockton	Director of Communications	Joanne Waters	Sunrise Sanitation	1145 W Charter Way	95206	(209) 466-5192	x	x	x
San Joaquin	Tracy	Owners	Lee & Margaret Clemons	C & S Metals	360 Arbor Ave	95376	(209) 836-4293		x	x
San Joaquin	Tracy	Recycling Coordinator	Bill Benner	City Government	520 Tracy Blvd	95376	(209) 836-4420	x	x	
San Joaquin	Tracy	Personnel Director	June Yancey	Owens-Illinois Glass Container, Inc	14700 W Schulte Rd	95376	(209) 836-8231	x	x	x
San Joaquin	Tracy	Operations Manager	Mike Repetto	Tracy Delta Solid Waste Management, Inc	105 E 12th St	95376	(209) 835-0601			
San Joaquin	Victor	President	Alberto Hasbun	Allsafe Industrial Services, Inc	9167 E 1st St	95253	(209) 333-8822	x		
San Luis Obispo	Arroyo Grande	City Manager	Chris Christiansen	City Government	P O Box 550	93421	(805) 489-1303			
San Luis Obispo	Atascadero	Recycling Coordinator	Kelly Heffernon	City Government	6500 Palma Ave	93422	(805) 461-5010	x	x	
San Luis Obispo	Atascadero	Owner	Lorin Heilmann	Heilmann Salvage Co	6450 Rocky Canyon Rd	93422	(805) 466-4893	x		x
San Luis Obispo	Grover Beach	Recycling Coordinator	Bob Nicholson	City Government	P O Box 365	83483	(805) 473-4567	x	x	
San Luis Obispo	Grover City	Owner	Wayne Stanley	Grover Recycling	202 S Third St	93433	(805) 489-5544			x
San Luis Obispo	Morro Bay	Recycling Coordinator	Mike Upton	City Government	695 Harbor St	93442	(805) 772-6261	x	x	
San Luis Obispo	Nipomo	President	Evangelos Aslanidis	Aslandis Corp	815 Ralcoa Way	93444	(805) 343-2289	x	x	x
San Luis Obispo	Nipomo	President	Evangelos Aslandis	Recycling Eagles, Inc	801 Ralcoa Way	93444	(805) 343-2289	x	x	x
San Luis Obispo	Paso Robles	Recycling Coordinator	John McCarthy	City Government	P O Box 307	93447	(805) 237-3860	x	x	
San Luis Obispo	San Luis Obispo	Solid Waste Mgt Coordinator	Cindy Butterfield	City Government	955 Morro St	93401	(805) 781-7100	x		
San Luis Obispo	San Luis Obispo	Recycling Coordinator	Mary Whittlesey	County Government	County Government Center	93408	(805) 781-5259	x	x	
San Luis Obispo	San Luis Obispo	Recycling Coordinator	John Ryan	Division of San Luis Garbage, Inc	438 Tank Farm Rd	93401	(805) 543-0148	x	x	x
San Luis Obispo	San Luis Obispo	Yard Manager	Bill Whipple	Environmental Center of San Luis Obispo County	45 Prado Rd	93401	(805) 781-3199	x	x	x
San Mateo	Atherton	Town Manager	Bill Zaner	City Government	91 Ashfield Rd	94027-3896	(415) 688-6504	x	x	
San Mateo	Brisbane	City Manager	Robin Leiter	City Government	150 North Hill Dr, Ste 39	94005	(415) 468-7190			
San Mateo	Brisbane	Recycling Coordinator	Theresa Buscow	City Government	150 North Hill Dr, Ste 39	94005	(415) 468-7190			
San Mateo	Burlingame	Recycling Coordinator	Rahn Becker	City Government	501 Primrose Rd	94010	(415) 342-8931	x	x	
San Mateo	Colma	Recycling Coordinator	Frances Liston	City Government	1198 El Camino Real	94014	(415) 997-8300			
San Mateo	Daly City	Management Analysis	Nzinga Nyagua	City Government	333 90th St	94015	(415) 991-8000	x	x	
San Mateo	East Palo Alto	Recycling Coordinator	Kenneth Jones	City Government	2200 University Ave	94303	(415) 853-3189			
San Mateo	East Palo Alto	Owner	Carl Heckman	Heckman Metals	220 Demeter St	94303	(415) 324-9666			x
San Mateo	Foster City	Associate Planner	Michele Daves	City Government	610 Foster City Blvd	94404	(415) 349-1200		x	
San Mateo	Half Moon Bay	Recycling Coordinator	William Smith	City Government	P O Box 338	94019	(415) 726-8280	x	x	
San Mateo	Hillsborough	Recycling Coordinator	Jim Coyne	City Government	1600 Floribunda Ave	94010	(415) 579-3800	x	x	
San Mateo	Hillsborough	City Engineer	Terrance Leong	City Government	1600 Floribunda Ave	94010	(415) 579-3811		x	
San Mateo	Menlo Park	Assistant City Manager	Ruben Nino	City Government	701 Laurel St	94025	(415) 858-3420	x	x	
San Mateo	Menlo Park	Director	Warnell Coats	Mid-Peninsula Youth & Community Services, Inc	3641 Haven Ave	94025	(415) 364-3333		x	x
San Mateo	Millbrae	Public Works Director	Lou Sandrini	City Government	621 Magnolia Ave	94030	(415) 259-2339	x	x	
San Mateo	Millbrae	Assistant Engineer	Ron Dragu	City Government	621 Magnolia Ave	94030	(415) 259-2339	x	x	
San Mateo	Pacifica	Recycling Coordinator	Polly Wallace	City Government	170 Santa Maria Ave	94044	(415) 738-7395		x	
San Mateo	Portola Valley	Chief Administrator Officer	Susan McGowan	City Government	765 Portola Rd	94028	(415) 851-1700	x	x	
San Mateo	Redwood City	Management Analysis	William Adams	City Government	P O Box 391	94064	(415) 780-7464	x	x	
San Mateo	Redwood City	Recycling Coordinator	Maureen Rearden	City Government	P O Box 391	94064	(415) 780-7000		x	

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
San Mateo	Redwood City	Recycling Coordinator	Cheri Puls	County Government	10 Twin Dolphin Dr	94065	(415) 363-4100	x	x	
San Mateo	San Bruno	Public Works Director	Lee Ritzman	City Government	567 El Camino Real	94066	(415) 877-8865	x	x	
San Mateo	San Bruno	Recycling Coordinator	Tom Ott	City Government	555 El Camino Real	94066	(415) 877-8858	x	x	
San Mateo	San Bruno	General Manager	Mike Schaukowitch	San Bruno Garbage Co, Inc	101 Tanforan Ave	94066	(415) 583-8536	x	x	x
San Mateo	San Carlos	Recycling Coordinator	Debbie Sargent	Browning Ferris Industries of CA	333 Shoreway Rd	94070	(415) 637-1411	x	x	x
San Mateo	San Carlos	Assistant Planner	Elizabeth Cullinan	City Government	666 Elm St	94070	(415) 802-4264			
San Mateo	San Carlos	Recycling Coordinator	Gary Cheso	City Government	333 Shoreway Rd	94070	(415) 637-1411	x	x	
San Mateo	San Carlos	City Manager	Debi Sargent	City Government	333 Shoreway Rd	94070	(415) 637-1411	x	x	
San Mateo	San Mateo	Recycling Coordinator	Jill Abrams	City Government	1949 Pacific Blvd	94403	(415) 377-4638	x	x	
San Mateo	South San Francisco	Public Works Director	Ron Parini	City Government	400 Grand Ave	94083	(415) 877-8538			
San Mateo	South San Francisco	Vice President	Stephanie Uccelli	Royal Salvage Co, Inc	180 Oyster Point Blvd	94080	(415) 589-4020	x	x	x
San Mateo	South San Francisco	General Manager	Thomas Padia	West Coast Salvage & Recycling	2255 Gellert Blvd	94080	(415) 621-3840			x
San Mateo	Woodside	Planning Director	Curtis Williams	City Government	P O Box 620005	94062	(415) 851-6790		x	
Santa Barbara	Carpinteria	Public Works Director	Bob Nisbet	City Government	5775 Carpinteria Ave	93013	(805) 684-5405			
Santa Barbara	Lompoc	Recycling Coordinator	John Welbourn	City Government	100 Civic Center Plaza	93438	(805) 736-1261	x	x	
Santa Barbara	Santa Barbara	Recycling Coordinator	Jim Wright	Community Environmental Council, Inc	930 Miramonte Dr	93109	(805) 963-0583		x	x
Santa Barbara	Santa Barbara	Recycling Coordinator	Donna Scanlon	County Government	123 East Anapamu St	93101	(805) 568-3055		x	
Santa Barbara	Santa Barbara	Recycling Education Specialist	Kelly McDonald	County Government	123 East Anapamu St	93101	(805) 568-3520	x	x	
Santa Barbara	Santa Barbara	Owner	Ronald Beltran	Santa Barbara Iron & Metal Recyclers	727 E Mason St	93103	(805) 962-1560			x
Santa Barbara	Santa Maria	Recycling Coordinator	Nancy Wood	City Government	110 E Cook St	93454	(805) 925-0951	x	x	
Santa Barbara	Santa Maria	Recycling Coordinator	Linda Martin	Larrabee Brothers Distributing Co, Inc	815 S Blosser Rd	93456	(805) 922-2108	x		x
Santa Barbara	Santa Maria	Recycling Coordinator	Julie Schmidt	Valley Recycling Co	1850 W Betteravia Rd	93455	(805) 922-9951	x	x	x
Santa Barbara	Santa Ynez	Recycling Coordinator	Tim Ezell	Santa Ynez Recycling	3550 E Hwy 246	93460	(805) 686-5211	x		x
Santa Clara	Alviso	Owner	Steven Ybarra	Metals West	1436 State St	95002	(408) 946-2315	x		
Santa Clara	Campbell	Owner	James Chalmers	Bay Area Recycling	710 McGlincey Ln	95008	(408) 371-5834			x
Santa Clara	Campbell	Recycling Coordinator	Bill Helms	City Government	70 North 1st St	95008	(408) 866-2153			
Santa Clara	Coyote	Owner	Ruth Fox	Coyote Recycle	8215-A Monterey Rd	95013	(408) 463-0817			
Santa Clara	Cupertino	Recycling Coordinator	Lavina Miller	City Government	10300 Torre Ave	95014	(408) 252-4505	x	x	
Santa Clara	Gilroy	Owner	Frank Robinson	A-1 Recycling Circus	150 Howson St	95020	(408) 842-0288			x
Santa Clara	Gilroy	Recycling Coordinator	Lisa Menacho	City Government	7351 Rosanna St	95020	(408) 848-0450	x	x	
Santa Clara	Gilroy	Secretary	Nick Zukowski	South Valley Refuse Service	7110 Alexandra	95020	(408) 842-3358		x	
Santa Clara	Gilroy	Owner	Trinie Martin	Trinie Martin Recycling, Inc	6310 Chestnut St	95020	(408) 842-2565			x
Santa Clara	Los Altos	Recycling Coordinator	Daphne Siegert	City Government	1 North San Antonio Rd	94022	(415) 948-1491		x	
Santa Clara	Los Altos Hills	Recycling Coordinator	Les Jones	City Government	26379 Fremont Rd	94022	(415) 941-7222			
Santa Clara	Los Gatos	Recycling Coordinator	Regina Falkner	City Government	P O Box 949	95031	(408) 354-6888	x	x	
Santa Clara	Milpitas	Recycling Coordinator	Cynthia Rosson	City Government	455 E Calaveras Blvd	95035	(408) 942-2378	x	x	
Santa Clara	Monte Sereno	Recycling Coordinator	Rosemary Pierce	City Government	18041 Saratoga-Los Gatos Rd	95030	(408) 354-7635		x	
Santa Clara	Morgan Hill	Recycling Coordinator	Maura Finnerty	City Government	17555 Peak Ave	95037	(408) 779-7259	x	x	
Santa Clara	Morgan Hill	Owner	Trinie Martin	Western Recycling	91 E 4th St	95037	(408) 842-2565			x
Santa Clara	Mountain View	Recycling Coordinator	Dianne Dryer	City Government	P O Box 7540	94039	(415) 903-6227	x	x	
Santa Clara	Mountain View	Recycling Specialist	Wendy Wilson	City Government	P O Box 7540	94039	(415) 903-6227	x	x	
Santa Clara	Mountain View	Solid Waste/Recycling Specialist	Kevin Woodson	City Government	P O Box 7540	94039	(415) 903-6227	x	x	
Santa Clara	Mountain View	Recycling Coordinator	Maurice Quillen	Foothill Disposal Co	935 Terra Bella Ave	94043	(415) 967-3034	x	x	
Santa Clara	Mountain View	General Manager	James Wunderman	Los Altos Garbage Co	1285 Pear Ave	94043	(415) 961-8046			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Santa Clara	Palo Alto	Projects Coordinator	Janet Foreman	City Government	P O Box 10250	94303	(415) 496-6928	x	x	
Santa Clara	San Jose	Owner	Udo Klein	All Recycling	3131 Monterey Hwy	95111	(408) 629-4061		x	
Santa Clara	San Jose	Recycling Coordinator	Kathleen Gonzalez	Browning Ferris Industries of CA	1995 Old Oakland Rd	95131	(408) 432-1234	x	x	x
Santa Clara	San Jose	Recycling Coordinator	Kenneth Toy	City Government	777 North 1st St, Ste 450	95112	(408) 277-5533	x	x	
Santa Clara	San Jose	President	Rubin Jurman	City Metals & Salvage, Inc	11665 Berryessa Rd	95133	(408) 452-0777			
Santa Clara	San Jose	President	Craig Smedman	Coastal Fibers, Inc	1045 Commercial Ct	95112	(408) 453-1960			
Santa Clara	San Jose	Operators	J Colton & B Oosterman	Container Corporation of America	201 Bassett St	95110	(408) 292-6552			x
Santa Clara	San Jose	Solid Waste Program Mgr	Margaret Grands	County Government	1735 N 1st St, Ste 275	95112	(408) 441-1198	x	x	
Santa Clara	San Jose	Recycling Coordinator	Mainard Tom	County Government	1555 Berger Dr	95112	(408) 299-3595			
Santa Clara	San Jose	General Manager	Bob Sasson	Goodwill Industries	1080 N 7th St	95112	(408) 998-5774	x	x	x
Santa Clara	San Jose	Recycling Operator	Bruce Fox	M & F Metals, Inc	1633 Old Oakland Rd	95161	(408) 453-7888			x
Santa Clara	San Jose	President	Austin Kyles	Recycling Specialists, Inc	1720 Old Bayshore Hwy	95112	(408) 437-7553	x	x	x
Santa Clara	San Jose	Recycling Operator	Daniel Morales	San Jose Metals Co	1032 N 10th St	95112	(408) 293-4032	x		x
Santa Clara	San Jose	Manager	Shane Grice	Simsmetal USA Corp	1800 Monterey Hwy	95112	(408) 294-8443			
Santa Clara	San Jose	Owner	Ashok Jain	Spectrum Resource	274 Hillsdale Ave	95136	(408) 266-3140	x		
Santa Clara	Santa Clara	President	William Cohen	ABC Recycling Industries Ltd	1031 Martin Ave	95050	(408) 727-9736	x	x	x
Santa Clara	Santa Clara	Recycling Coordinator	Cindy Lee	City Government	1500 Warburton Ave	95050	(408) 984-5188	x	x	
Santa Clara	Santa Clara	Vice President	Angelo Caloiaro	Santa Clara Recycling	5500 Lafayette	95054	(408) 727-3044			
Santa Clara	Santa Clara	Owner	Vernon Griffin	Western Recycled Resources	1744 Grant St, Ste B	95050	(408) 988-6040	x	x	x
Santa Clara	Saratoga	Recycling Coordinator	Isabel Gloege	City Government	13777 Fruitvale Ave	95070	(408) 867-3438		x	
Santa Clara	Sunnyvale	Recycling Coordinator	Kelly Ferguson	City Government	1220 Midas Way	94086	(408) 739-0560			
Santa Clara	Sunnyvale	Owner	Timothy Haberl	Confers Metals	1164 Willow Ave, Ste 1	94086	(408) 243-8999			
Santa Clara	Cupertino	General Manager	John Aitkens	City Government	20863 Stevens Creek Blvd, Ste 100	95014	(415) 961-8044	x	x	
Santa Cruz	Boulder Creek	Board Member	Nancy Macy	Valley Women's Club Assoc	15485 Bear Creek Rd	95006	(408) 338-6578			
Santa Cruz	Capitola	Recycling Coordinator	Steve Burrell	City Government	420 Capitola Ave	95010	(408) 475-7300		x	
Santa Cruz	Santa Cruz	Owner	Donald Armstrong	Armstrong Enterprises	633 26th Ave	95062	(408) 479-8956			
Santa Cruz	Santa Cruz	Recycling Operator	Lou Ferrera	California Grey Bears, Inc	2710 Chanticleer Ave	95065	(408) 479-1055	x	x	x
Santa Cruz	Santa Cruz	Recycling Coordinator	Ron Fahl	City Government	809 Center St, Rm 201	95060	(408) 429-3490	x	x	
Santa Cruz	Santa Cruz	Recycling Coordinator	Jeffrey Smedberg	County Government	701 Ocean St	95060	(408) 454-2373	x	x	
Santa Cruz	Santa Cruz	Recycling Manager	Frank Voit	Waste Mgmt Collection & Recycling Corp	2230 Chanticleer Ave	95062	(408) 476-1201	x	x	x
Santa Cruz	Scotts Valley	Recycling Coordinator	Kathryn Caldwell	City Government	One Civic Center Dr	95066	(408) 438-2324		x	
Santa Cruz	Watsonville	Recycling Coordinator	Nancy Rutlinger	City Government	P O Box 50000	95077-5000	(408) 728-6153	x	x	
Santa Cruz	Watsonville	Owner	Roxanne Davilla	D & D Recycling	710 B Walker St	95076	(408) 722-3597	x	x	x
Santa Cruz	Watsonville	Owner	Julius Dias	Watsonville Metals Co	213 Dias Ln	95076	(408) 728-1551			
Shasta	Anderson	Owner	James Smith	Big Foot Recycling	6351 Eastside Rd	96007	(916) 365-6458	x		x
Shasta	Anderson	Public Works Director	Gary Lighthall	City Government	1887 Howard St	96007	(916) 378-6626		x	
Shasta	Burney	Owner	Charles Ross	Superior Avenue Steil & Supply, Inc	1993 Superior Ave	96013	(916) 335-2196			
Shasta	Redding	Recycling Coordinator	Pete Roach	City Government	760 Parkview Ave	96001	(916) 225-4420	x	x	
Shasta	Redding	Owner	James Ratto	Clayton-Ward Co	2500 Ellis St	96001	(916) 244-1577			
Shasta	Redding	Recycling Coordinator	Dick Curry	County Government	1855 Placer St	96001	(916) 225-5661	x	x	
Shasta	Redding	Vice President	Russell Short Jr	Shorts Scrap Iron & Metals	2041 Girvan Rd	96001	(916) 243-4780			x
Sierra	Downieville	Recycling Coordinator	Tim Beals	County Government	P O Box 98	95936	(916) 289-3201	x	x	
Siskiyou	Dorris	Recycling Coordinator	Vacant	City Government	P O Box 768	96023	(916) 397-4281			
Siskiyou	Dunsmuir	Recycling Coordinator	Vacant	City Government	P O Box 587	96025	(916) 235-4822			

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County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Siskiyou	Montague	Recycling Coordinator	Frank Hoag	City Government	P O Box 428	96064	(916) 459-5609		x	
Siskiyou	Mt Shasta	Public Works Director	Dan Aveila	City Government	305 N Mt Shasta Blvd	96067	(916) 926-3464	x	x	
Siskiyou	Mt Shasta	Recycling Supervisor	Kevin Lathrop	Siskiyou Opportunity Center	1516 S Mt Shasta Blvd	96067	(916) 926-4716	x	x	x
Siskiyou	Tulelake	Councilman Water/Waste	Andy Wilkins	City Government	470 C St	96134	(916) 667-2672			
Siskiyou	Weed	Public Works Director	Ron Servia	City Government	P O Box 470	96094	(916) 938-5020			
Siskiyou	Yreka	Manager	Karen Eller	C K Enterprises	230 Ranch Ln	96097	(916) 842-9119	x	x	x
Siskiyou	Yreka	City Manager Asst	Jon Stevenson	City Government	701 Fourth St	96097	(916) 842-4386	x	x	
Siskiyou	Yreka	Recycling Coordinator	Roger Cummins	County Government	305 Butte St	96097	(916) 842-8250	x	x	
Siskiyou	Yreka	Owner	Darrell Hall	Darrell Hall	351 Oberlin Rd	96097	(916) 842-2919			
Siskiyou	Yreka	Owner	Robert Rizzo	Weed Community Recycling	1034 Greenhorn Rd	96097	(916) 842-3864			x
Siskiyou	Yreka	Owner	Sharon Rizzo	Yreka Transfer Co	303 Yama St	96097-2498	(916) 842-7306			x
Solano	Benicia	Recycling Coordinator	Pierre Bidou	City Government	250 East L St	94510	(707) 746-4200	x	x	
Solano	Benicia	President	Steven Moore	Pacific Rim Recycling	433 Industrial Way, Ste 206	94510	(707) 746-6067		x	
Solano	Dixon	Manager	Terry Smith	B & S Recycling	390 Industrial Way, Ste C	95620	(916) 678-8926			x
Solano	Dixon	City Manager	Dave Harris	City Government	600 East A St	95620	(916) 678-7000	x	x	
Solano	Dixon	Recycling Coordinator	Janet Koster	City Government	600 East A St	95620	(916) 678-7030	x	x	
Solano	Fairfield	Recycling Coordinator	Monica Finigan	City Government	1000 Webster St	94533	(707) 428-7398	x		
Solano	Fairfield	Recycling Coordinator	Harry Englebright	County Government	601 Texas St	94533	(707) 421-6765		x	
Solano	Fairfield	President	David Buzby	Resource Holdings, Inc	2490 Cement Hill Rd	94533	(707) 437-6037	x		x
Solano	Fairfield	Operations Manager	Dave Vaughn	Solano Garbage Co, Inc	2901 Industrial Ct	94533	(707) 437-1111	x	x	x
Solano	Fairfield	Owner	Rod Rougelot	Valley Recycling	2490 Cement Hill Rd	94533	(707) 437-4808	x	x	x
Solano	Rio Vista	Recycling Coordinator	Curt Brown	City Government	1 Main St	94571	(707) 374-6451		x	
Solano	Rio Vista	Owner	Louie Lira	Rio Vista Recycling	609 Hwy 12	94571	(707) 374-5505		x	
Solano	Suisun	Recycling Coordinator	Peggy Christiansen	City Government	701 Civic Center Blvd	94585	(707) 421-7356	x	x	
Solano	Vacaville	Recycling Coordinator	Georgia Cocklin	City Government	650 Merchant St	95688	(707) 449-5173	x	x	
Solano	Vacaville	General Manager	Archie Humphrey	Vacaville Sanitary Service	831 Davis St	95687	(707) 448-2945	x	x	x
Solano	Vallejo	Recycling Coordinator	David Briggs	City Government	555 Santa Clara St	94590	(707) 648-5268	x	x	
Solano	Vallejo	Manager	Jane Vogner	Valcore Recycling	38 Sheridan St	94590	(707) 645-8258	x		x
Solano	Vallejo	Recycling Supervisor	John Reed	Vallejo Garbage Service	710 Marin St	94590	(707) 552-3110		x	x
Sonoma	Cloverdale	Recycling Coordinator	Carol Giovanatto	City Government	1254 North Cloverdale Blvd	95425	(707) 894-2521	x	x	
Sonoma	Cotati	Vice Chairman	John Dell'Osso	City Government	201 West Sierra Ave	94931	(707) 792-4600	x	x	
Sonoma	Cotati	Recycling Coordinator	Marsha Lustig	City Government	201 West Sierra Ave	94931	(707) 792-4600		x	
Sonoma	Cotati	Owner	Larry Johnson	Larry's Sanitary Service, Inc	7085 Gravenstein Hwy South	94931-0430	(707) 795-2319			
Sonoma	Healdsburg	Recycling Coordinator	Barbara Jason-White	City Government	126 Matheson St	95448	(707) 431-3319		x	
Sonoma	Petaluma	Recycling Coordinator	Gene Beatty	City Government	11 English St	94952	(707) 778-4345		x	
Sonoma	Petaluma	Director	Davide Donati	Petaluma Recycling Center	315 Second St	94952	(707) 763-4761	x	x	x
Sonoma	Rohnert Park	Recycling Coordinator	Carl Levio	City Government	6750 Commerce Blvd	94928	(707) 795-2411	x	x	
Sonoma	Santa Rosa	Recycling Coordinator	Marc Richardson	City Government	P O Box 1678	95402	(707) 524-5361	x	x	
Sonoma	Santa Rosa	Integrated Waste Specialist	Lesli Daniel	County Government	575 Administration Dr, 117A	95403	(707) 527-3375		x	
Sonoma	Santa Rosa	Recycling Coordinator	Paula Magyari	County Government	575 Administration Dr, 117A	95403	(707) 527-3375		x	
Sonoma	Santa Rosa	Recycling Coordinator	Lisa Hardin	Empire Paper	3911 Santa Rosa Ave	95407	(707) 585-0513	x	x	x
Sonoma	Santa Rosa	Environmental Education	Kelly Keogh	Empire Waste Management	3400 Standish Ave	95407	(707) 584-4200	x	x	x
Sonoma	Santa Rosa	President	Michael Anderson	Garbage Reincarnation, Inc	3899 Santa Rosa Ave	95407	(707) 584-8666	x	x	x
Sonoma	Sebastopol	Recycling Coordinator	Ron Puccinelli	City Government	P O Box 1776	95473	(707) 823-7863			

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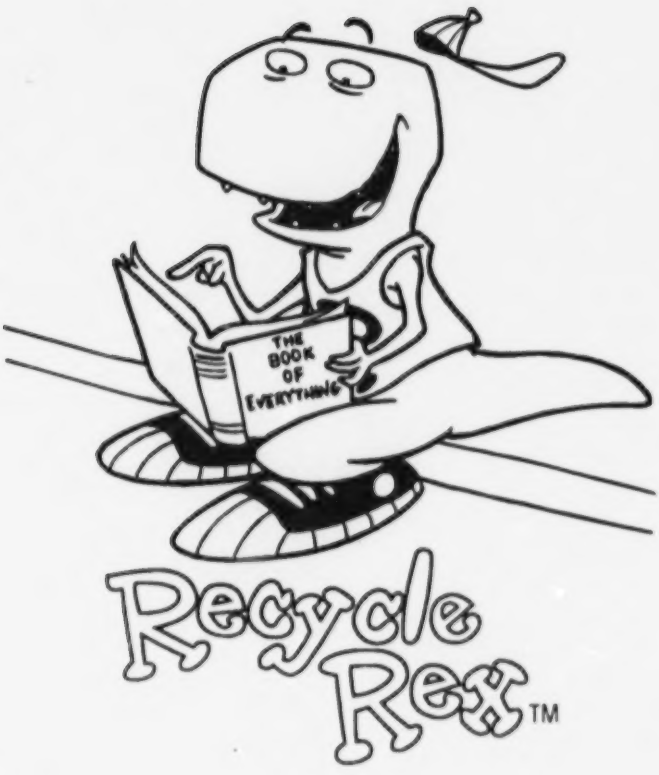
County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Sonoma	Sonoma	Recycling Coordinator	Patricia Wagner	City Government	Sonoma City Hall, No 1 The Plaza	95476	(707) 939-3794			
Sonoma	Sonoma	Vice President	Charles Schwerin	Vintage House Mini-Purpose Senior Center	264 1st St East	95476	(707) 996-0311	x		x
Sonoma	Windsor	Public Works Director	John Johnson	City Government	9291 Old Redwood Hwy	95492	(707) 838-1006			
Sonoma	Windsor	Sole Proprietor	James Connell	Connell's Thrifty Scotsman	9030 Windsor Rd	95492	(707) 838-0721			x
Sonoma	Windsor	Owner	Kenneth Walker	Walkers Thrifty Scotsman	9030 Windsor Rd	95492	(707) 838-0721			x
Sonoma	Windsor	Owner	Jack Gardner	West Coast Metals, Inc	10439 Old Redwood Hwy	95492	(707) 838-9731			x
Stanislaus	Ceres	Recycling Coordinator	Kay Dunkel	City Government	P O Box 217	95307	(209) 538-5790	x	x	
Stanislaus	Ceres	Owner	John Maraspini	Recycling Center	2635 E Service Rd	95307	(209) 538-1689		x	x
Stanislaus	Hughson	Recycling Coordinator	Ron Bremer	City Government	P O Box 9	95326	(209) 883-4069			
Stanislaus	Modesto	President	Timothy Francis	Central Valley Recycling	524 S 9th St	95351	(209) 544-1578			x
Stanislaus	Modesto	Recycling Coordinator	Marsha Bradford	City Government	PO Box 642	95354	(209) 577-5493	x	x	
Stanislaus	Modesto	Recycling Coordinator	Dennis Shuler	County Government	1716 Morgan Rd	95358	(209) 525-4160	x	x	
Stanislaus	Modesto	Recycling Coordinator	Jami Aggers	County Government	1716 Morgan Rd	95358	(209) 525-4160	x	x	
Stanislaus	Modesto	Personnel Manager	Connie Rush	Gallo Glass Co	615 S Santa Cruz Ave	95354	(209) 579-3411	x	x	
Stanislaus	Modesto	General Manager	Richard Gilton	Gilton Resource Recovery/Transfer Facility, Inc	800 S McClure Rd	95354	(209) 527-3781	x	x	x
Stanislaus	Modesto	Owner	Charles Mills	Modesto Can Banks Recycling	304 Avila Ct	95354	(209) 526-3241			x
Stanislaus	Modesto	Recycling Coordinator	Dan Peterson	Modesto Garbage Co, Inc	2769 W Hatch Rd	95351	(209) 538-2267	x	x	x
Stanislaus	Modesto	Operation Manager	Jeff Highiet	Modesto Junk Co	1403-25 9th St	95353	(209) 522-1435			x
Stanislaus	Modesto	Print Distributor	David Montez	Productions Unlimited	213 Empire Ave	95354	(209) 538-4000		x	
Stanislaus	Modesto	Manager	Steve Bonzi	Rudy Bonzi, Inc	2070 Morgan Rd	95351	(209) 537-4410	x	x	
Stanislaus	Modesto	Owner	Desiderio Lopez	Southside Recycling Center	1024 Crowslanding Rd	95351	(209) 521-1348			
Stanislaus	Newman	Recycling Coordinator	Stephen Hollister	City Government	P O Box 787	95360	(209) 862-3725			
Stanislaus	Oakdale	Recycling Coordinator	Bruce Bannerman	City Government	280 North Third	95361	(209) 847-3031		x	
Stanislaus	Oakdale	Owner	Sharyn Wright	Oakdale Recycle Center	1477 S Yosemite Ave	95361	(209) 847-7546	x	x	x
Stanislaus	Patterson	Recycling Coordinator	Ignacio Lopez	City Government	P O Box 667	95363	(209) 892-2041		x	
Stanislaus	Riverbank	Recycling Coordinator	Brian Cox	City Government	6707 Third St	95367	(209) 869-3671			
Stanislaus	Turlock	Owner	John Mathews	Central Valley Recycling	420 C St	95380	(209) 632-4847			
Stanislaus	Turlock	Program Assistant	Myriam McCary	City Government	P O Box 1526	95381-1526	(209) 668-5590	x	x	
Stanislaus	Turlock	Recycling Coordinator	Tom Farr	City Government	P O Box 1526	95381-1526	(209) 668-5590	x	x	
Stanislaus	Turlock	Recycling Coordinator	Janice Clark	Turlock Recycling	1020 S Walnut Rd	95380	(209) 667-1141	x	x	x
Stanislaus	Waterford	Recycling Coordinator	Les Crist	City Government	P O Box 199	95386	(209) 874-2328	x		
Sutter	Yuba City	Recycling Coordinator	Keith Martin	City Government	1612 Poole Blvd	95993	(916) 674-7882			
Sutter	Yuba City	Recycling Coordinator	Keith Martin	County Government	1612 Poole Blvd	95993	(916) 671-4327			
Sutter	Yuba City	Owner	William Tarvin	Recycle America	360 Bridge St	95991	(916) 673-6933			x
Sutter	Yuba City	President	Richard Lovell	Yuba City Scrap & Steel, Inc	1721 Colusa Hwy	95993	(916) 673-9442			x
Tehama	Corning	Recycling Coordinator	Tom Russ	City Government	794 3rd St	96080	(916) 824-7035			
Tehama	Corning	Solid Waste Coordinator	Dave Donnan	Corning Disposal Service, Inc	3281 Hwy 99W	96021	(916) 824-4700	x	x	x
Tehama	Red Bluff	Recycling Coordinator	George Robson	County Government	444 Oak, Rm I	96080	(916) 527-2200	x	x	
Tehama	Red Bluff	Owner	James Sides	J W Sides Recycling	11475 Hwy 99, West	96080	(916) 527-7041			
Tehama	Red Bluff	Owner	Lloyd Newham	Lloyd L Newham	20822 Walnut St	96080	(916) 529-1334			
Tehama	Red Bluff	Solid Waste Coordinator	Dave Donnan	Red Bluff Disposal Co	1375 Montgomery Rd	96080	(916) 527-3443	x	x	x
Tehama	Red Bluff	Owner	Barry Compston	Red Bluff Recycling	20769 Walnut St	96080	(916) 527-2660			x
Tehama	Red Bluff	Manager	Carmen Enerson	Tehama Co Opportunity Center, Inc	13315 Baker Rd	96080	(916) 527-0407	x	x	x
Tehama	Tehama	Recycling Coordinator	Carolyn Steffan	City Government	250 Cavalier Ave	96090	(916) 384-2406			

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Trinity	Weaverville	Owner	Bobby & Terry McNeil	B & T Enterprises	111 N Washington St	96093	(916) 623-5108	x	x	x
Trinity	Weaverville	General Services Manager	John Whitaker	County Government	P O Box 2700	96093	(916) 623-1326			
Tulare	Dinuba	Recycling Coordinator	David Phillips	City Government	405 East El Monte	93618	(209) 591-3725	x		
Tulare	Exeter	Recycling Coordinator	Howard Ricks	City Government	P O Box 237	93221	(209) 592-9244			
Tulare	Farmersville	Recycling Coordinator	Ron Mathis	City Government	873 South Farmersville	93233	(209) 747-3330			
Tulare	Lindsay	Public Works Director	Tom McCurdy	City Government	P O Box 369	93247	(209) 562-5927	x		
Tulare	Orosi	Office Manager	Yvette Botello	Pena's Disposal, Inc	12843 Ave 416	93647	(209) 528-6998	x		x
Tulare	Porterville	Recycling Zone Coordinator	Vicke Maples	City Government	291 North Main St	93257	(209) 782-7466	x	x	
Tulare	Porterville	Recycling Coordinator	Ed Yost	City Government	555 N Prospect St	93257	(209) 782-7466	x	x	
Tulare	Porterville	Dir of Community Dev & Svs	Michael Unser	City Government	291 North Main St	93257	(209) 782-7466	x	x	
Tulare	Porterville	Owner	Betty Yarberry	Porterville Metals	185 W Vine	93257	(209) 784-4530			x
Tulare	Porterville	Executive Director	Stephen Tree	Porterville Sheltered Workshop	187 W Olive Ave	93257	(209) 784-1399	x		x
Tulare	Strathmore	Vice President	Mitchell Brown	Mitchell Brown General Engineering, Inc	27489 Ave 196	93267	(209) 781-6389			
Tulare	Tulare	Recycling Coordinator	John Tindel	City Government	411 East Kern Ave	93274	(209) 685-2300	x	x	
Tulare	Tulare	Owner	Ronald Rushing	Rushings Iron & Metal	3303 South K St	93274	(209) 686-6616			x
Tulare	Tulare	Manager	Paul Holguin	Valley Recycling	1901 W Tulare Ave	93274	(209) 686-7315		x	x
Tulare	Visalia	Partner	Jeffrey Prins	Central Recycling Service	8461 Ave 304	93291	(209) 651-2642			
Tulare	Visalia	Recycling Coordinator	Laura Barton	City Government	336 North Ben Maddox Way	93291	(209) 730-7028	x	x	
Tulare	Visalia	Solid Waste Manager	Roger Hunt	County Government	Community Civic Center, Rm 10	93291	(209) 733-6634	x	x	
Tulare	Visalia	Recycling Operator	Candelario Botello	Sierra Recycle Center	2707 E Noble	93277	(209) 625-0416		x	x
Tulare	Woodlake	Recycling Coordinator	Jack Justice	City Government	350 North Valencia Blvd	93286	(209) 564-8055	x		
Tuolumne	Big Oak Flat	Vice President	Donald Henley	Henley's	17867 Hwy 120	95305	(209) 962-7181		x	
Tuolumne	Jamestown	Owner	William Schulz	Nother Load Recycling	18395 Main St	95327	(209) 984-3642	x	x	x
Tuolumne	Sonora	Recycling Manager	Debbie Applegate	Cal-Sierra Disposal, Inc	19390 Industrial Dr	95370	(209) 533-0445	x	x	x
Tuolumne	Sonora	Recycling Coordinator	Mark Rappaport	County Government	2 South Green St	95370	(209) 533-5601			
Ventura	Camarillo	Manager	Oren Zarin	Camarillo Recycling	409 Calle San Pablo, Ste 112	93010	(805) 987-0226			x
Ventura	Camarillo	Recycling Coordinator	Becky Radonich	City Government	P O Box 248	93011	(805) 388-5315	x	x	
Ventura	Fillmore	Recycling Coordinator	John Cozar	City Government	P O Box 487	93016	(805) 524-3701			
Ventura	Moorpark	Recycling Coordinator	Jill Rubin	City Government	799 Moorpark Ave	93021	(805) 529-6864	x		
Ventura	Newbury Park	Owner	Barry Sweet	American Scrap	165 Academy Dr, Ste B	91320	(805) 498-5865		x	x
Ventura	Ojai	Recycling Coordinator	Marilyn Miller	City Government	401 South Ventura St	93023	(805) 646-5581	x	x	
Ventura	Oxnard	Recycling Coordinator	Dan Hakes	City Government	1060 Pacific Ave	93030	(805) 385-7896	x	x	
Ventura	Oxnard	Co-Owner	Eddie Felipe	Eddie's Recycling	1610 Pine St	93033	(805) 486-5607			
Ventura	Oxnard	Chief Executive Officer	Clarence Haack	Halaco Engineering Co	6200 Perkins Rd	93033	(805) 488-3684			
Ventura	Oxnard	President	Ralph Beltran	Oxnard Metals, Inc	1441 Mountain View	93030	(805) 483-0512			x
Ventura	Port Hueneme	Recycling Coordinator	Les Leagh	City Government	250 North Ventura Rd	93041	(805) 986-6501		x	
Ventura	Santa Paula	Recycling Coordinator	Jeff Palmer	City Government	200 South Tenth St	93061	(805) 933-4220		x	
Ventura	Santa Paula	Owner	Steven Lazenby	Santa Paula Recycling	1417 E Main St	93060	(805) 525-0137			
Ventura	Simi Valley	Business Program Analyst	Vijit Singh	City Government	2929 Tapo Canyon Rd	93063	(805) 583-6335	x	x	
Ventura	Simi Valley	Recycling Coordinator	Patrick Pieres	City Government	2929 Tapo Canyon Rd	93063	(805) 583-6762	x	x	
Ventura	Simi Valley	Curbside/ Household Hazards	John Cole	City Government	2929 Tapo Canyon Rd	93063	(805) 583-6761	x	x	
Ventura	Simi Valley	Education/ Compost Specialist	Kathy Ilg	City Government	2929 Tapo Canyon Rd	93063	(805) 583-6864	x	x	
Ventura	Simi Valley	Senior Vice President	Michael Smith	Conejo Enterprises	195 W Los Angeles Ave	93065	(805) 522-9400	x		x
Ventura	Simi Valley	Recycling Coordinator	Perry Schlosser	Simi Valley Recycling Center, Inc	2160 Union Place	93065	(805) 527-4033	x	x	x

219

County	City	Occupation	Name	Organization	Address	ZIP	Phone	Presentations	Materials	Tours
Ventura	Thousand Oaks	Recycling Coordinator	Grahame Watts	City Government	2400 Willow Lane	91361	(805) 497-9611	x	x	
Ventura	Ventura	Recycling Coordinator	Eric Werbalowsky	City Government	5275 Colt St, #3	93003	(805) 650-0844	x	x	
Ventura	Ventura	Recycling Coordinator	Kim Collins	City Government	374 Poinsettia St	93001	(805) 653-6597	x	x	
Ventura	Ventura	Recycling Coordinator	Victoria Hand	County Government	5275 Colt St, #3	93003	(805) 654-3935	x	x	
Ventura	Ventura	Partners	Daniel Murphy	D & J Recycling Services	270 N Olive St	93001	(805) 643-0574			
Ventura	Ventura	Operations Manager	Christopher Webb	Gold Coast Recycling, Inc	5275 Colt St	93003	(805) 642-9236	x	x	x
Ventura	Ventura	President	Paul Maloney	Ventura Industrial Supply	1349 N Olive	93001	(805) 643-4972			x
Ventura	Ventura	Executive Assistant	Lupe Beltran	Ventura Recycling	2591 Katherine Ave, Ste 3	93003	(805) 650-8004			x
Ventura	Ventura	Community Education Specialist	Allison Maires	Ventura Regional Sanitation District	1001 Partridge Dr, Ste 150	93003-5882	(805) 658-4688	x	x	x
Yolo	Davis	Asst Public Works Director	Bob Weir	City Government	23 Russell Blvd	95616	(916) 757-5686	x	x	
Yolo	Davis	Recycling Co/Coordinator	Diane Makley	City Government	23 Russell Blvd	95616	(916) 757-5686	x	x	
Yolo	Davis	Recycling Co/Coordinator	Catherine McCarthy	City Government	23 Russell Blvd	95616	(916) 757-5686	x	x	
Yolo	Davis	Recycling Coordinator	Michael Rock	County Government	600 A St, Ste 158	95616	(916) 757-5566	x	x	
Yolo	Davis	Recycling Manager	John Geisler	Davis Waste Removal Co, Inc	1818 Fifth St	95616	(916) 756-4648	x	x	x
Yolo	West Sacramento	Recycling Coordinator	Jill Holbert	City Government	P O Box 986	95691	(916) 373-5816	x	x	
Yolo	West Sacramento	Owner	James Martinez	J & M Recycling	210 Stone Blvd	95691	(916) 372-4223			
Yolo	Winters	Recycling Coordinator	Lowell Patton	City Government	318 1st St	95694	(916) 795-2820			
Yolo	Woodland	Recycling Coordinato	Gerald Kindsfather	City Government	300 1St St	95695	(916) 661-5969			
Yolo	Woodland	Program Director	Bill Gabbard	Woodland Rehabilitation & Employment Industries	660 Sixth St	95695	(916) 662-8616	x		x
Yuba	Marysville	Recycling Coordinator	Ben Bramer	City Government	P O Box 150	95901	(916) 741-6644			
Yuba	Marysville	Recycling Coordinator	Pat Thomas	County Government	938 14th St	95901	(916) 741-6421		x	
Yuba	Marysville	Owner	George Pace	George Pace Industries	1635 N Beale Rd	95901	(916) 742-1422			
Yuba	Olivehurst	Owner	Heide Pace	Olivehurst Feed & Grain	4833 Olivehurst Ave	95961	(916) 743-2514			
Yuba	Wheatland	Recycling Coordinator	Monika Wall	City Government	P O Box 395	95692	(916) 633-2761			

Glossary of Terms & Common Usages



GLOSSARY OF TERMS AND COMMON USAGES

Aluminum - a strong, light, silver-colored metal made chiefly from bauxite ore. *(3)*

Bauxite Ore - mineral from which aluminum is made. *(2)*

Bimetal - made from two types of metals. *(2)*

Biodegradable - material that breaks down or decomposes naturally. *(1)*

Bottom Ash - the ash that remains after incineration. *(2)*

CFCs - *(chlorofluorocarbons)* a group of manufactured chemicals found in some plastic foam cups, packaging, insulation, aerosol containers, and in cooling systems of most air conditioners and refrigerators. CFCs are not biodegradable; they destroy the thin layer of ozone at the outer layer of our atmosphere and contribute to the greenhouse effect. *(1)*

Close the Loop - purchasing recycled products or products made of recycled materials.

Commingle - to mingle together; intermix; to combine like or similar recyclable items.

Composting - process of combining organic materials that decay and make a rich soil (humus). *(2)*

Conservation - the wise use of our natural resources.

Contaminants - materials that pollute and harm our environment. As the word relates to recycling - items in a load of recyclables that are not of the same material type as the load.

Corrugated Paper - paper or cardboard that is corrugated (shaped or contracted into parallel grooves and ridges) so as to be resilient, used for wrapping or packaging. *(3)*

Cullet - ground or crushed glass. *(2)*

Curbside Recycling - residents separate predetermined recyclable materials from the trash and place them near the curb. There, the recyclable materials are picked up by a recycling truck.

Decompose - to break down and rot away. *(2)*

Energy - the ability to produce heat or motion. We use energy to light, heat and cool our homes, and to run our cars and machines. *(1)*

Environment - all of the conditions, circumstances and influences, surrounding and affecting the development of an organism or group of organisms. *(4)*

Environmentalist - a person working to solve environmental problems, such as air and water pollution, the exhaustion of natural resources and uncontrolled population growth. *(4)*

Ferrous Metal - iron-based metal. *(2)*

Glass - a transparent inorganic material produced by combining silica sand with burnt lime or limestone and soda ash. *(3)*

Glasphalt - similar to asphalt, but uses ground glass instead of gravel. *(2)*

Green - the word and the color green are becoming symbolic for ecology and awareness of the environment. *(1)*

Hazardous Waste - *(toxic waste)* harmful materials thrown away which are toxic, flammable, explosive and/or caustic. *(1)*

Humus - decayed organic materials (grass, leaves, etc.); rich soil. *(2)*

Incineration - process of burning waste. *(2)*

Inorganic - things not made from living substances. *(2)*

Integrated Waste Management - an approach to waste management that incorporates reducing, reusing, recycling, composting, transforming and disposing of waste in an environmentally safe manner that protects public health and safety. *(6)*

Landfill - a place where garbage, rubbish, etc., is disposed of by burying it under a shallow layer of soil. *(4)*

Leachate - liquid that has percolated through solid waste and/or been generated by solid waste decomposition and has extracted, dissolved or suspended materials in it. This liquid may contaminate ground or surface water. *(3)*

Litter - small quantities of trash or garbage that are discarded, dropped or scattered without concern for their proper disposal. Litter includes material that falls out of containers, receptacles, vehicles and packages, and can range from paper, metal cans, and bottles to auto parts and construction materials. *(3)*

Methane - gas formed from decomposing waste. *(2)*

Municipal Solid Waste - nonhazardous, nonagricultural solid waste generated by residences, businesses and institutions. *(3)*

Natural Resources - those things in our environment which are natural; i.e., plants, water and minerals. *(2)*

Nonferrous Metals - metals that contain no iron, such as aluminum, copper and brass. *(3)*

Nonrecyclable - inability to turn used products into new products by reprocessing or remanufacturing. *(3)*

PCBs - (polychlorinated biphenyls) - PCBs are a group of toxic chemicals that were used for many industrial products including electrical transformers and fluorescent lights. PCBs are very poisonous, they are hard to dispose of because they are not easily biodegradable and may remain in our environment for hundreds of years. *(1)*

Petrochemical - chemical made from petroleum; used in making plastic. *(2)*

Plastic - any of a large class of complex organic compounds formed by polymerization; capable of being molded or cast into various shapes and films. *(For different types of plastics and their recycling codes, refer to page 201 in this guide.)*

Pollution - the contaminating of our land, water or air with harmful materials. (2)

Precious Minerals - rare and valuable minerals such as bauxite ore and coal.

Recoverable Resources - materials that — after serving a specific purpose — still have useful chemical or physical properties and can be reused or recycled for the same or another purpose. *(3)*

Recycle - to turn something old into something new, (i.e., recycled old cans processed into new cans).

Recycling Center - a site where used manufactured materials are collected and resold for reprocessing. Types of centers include dropoff and donation; buyback, community service and processing. For general and technical information, call **1-800-RECYCLE** (in CA only).

Recycling Coordinator - the city or county official responsible for coordinating waste reduction and recycling programs in the city or county.

Recycling Operator - person responsible for running a recycling program/center.

Reduce - lessen the amount of waste generated.

Refuse - anything thrown away or rejected as worthless or useless; waste; garbage; trash; rubbish. *(4)*

Resin - natural, organic substance used in varnish, ink, plastics. *(3)*

Resource - something that is found in nature and is useful. A renewable resource is a resource that can be replaced. Farmland, fish and forests can be renewed if used wisely. A nonrenewable resource is one that cannot be replaced. Underground minerals including metals and fossil fuels are nonrenewable resources. *(1)*

Resource Recovery - a process that extracts value from the wastestream in the form of materials, energy or fuel. Involves use of high technology to burn mixed solid waste to produce energy and, in some cases, industrial fuel. Resource recovery may involve mechanical separation of recyclables before or after burning. *(3)*

Reuse - using products over again, either for the same purpose or for another use. *(2)*

Slurry - a thick watery mixture; usually the pulpy substance produced for paper making. *(2)*

Solar Energy - the sun's energy. As our planet revolves around the sun, the sun's rays warm it and provide energy necessary to sustain life. Scientists are working on solar collectors that will capture the sun's energy so that we can use it to power our cars, run our factories, and heat and cool our homes. Solar energy is renewable and does not produce harmful wastes, which is why it is called clean energy.

Solid Waste - garbage, trash, refuse, rubbish; our throwaway materials. *(2)*

Solid Waste Management - management of the safe and sanitary reuse or disposal of material that has been processed at least once. *(3)*

Source Reduction - reducing the generation of waste at the source (through proper management and planning).

Waste - leftover, superfluous refuse; no longer of use. *(3)*

Waste Disposal - controlled assimilation of waste materials into the environment without causing unacceptable damage. *(3)*

Waste-to-Energy - process of burning waste to produce energy/electricity. *(2)*

Waste Hauler - specially equipped company which picks up solid waste for disposal. *(2)*

Watershed - the area drained by a network of creeks, streams, lakes and rivers. Watersheds provide drinking water for cities. Some watersheds have been polluted by garbage and sewage. *(1)*

Windpower Energy - windmills capture the energy of the wind. When windmills turn, they can make electricity. This electricity can be used directly or stored in batteries and can be used later, even when the wind dies down Some people use windmills to generate energy in their homes. Windpower energy is clean, renewable energy. *(1)*

Woodpulp - wood fiber separated by mechanical or chemical means; used in making paper and other products. *(3)*

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(2) ***Garbage Vocabulary.*** (1988). Refuse Industry Production, Inc: P. O. Box 1011 Grass Valley, CA 95945. (916) 272-7289.

(3) San Diego County Office of Education, Department of Public Works. ***RAYS–Recycle and You Save.*** (Curriculum for K-6).(County of San Diego, Department of Public Works, San Diego County of Education, I Love A Clean San Diego County, Inc. San Diego, CA).

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(5) University of California, County of Lake. ***4 - H Leadership Development.*** University of California, County of Lake, 883 Lakeport Blvd., Lakeport, CA 95453. (202) 263-2281.

(6) California Integrated Waste Management Board. 8800 Cal Center Drive, Sacramento, CA 95826.

DIFFERENT TYPES OF PLASTICS AND THEIR RECYCLING CODES

1 PETE - *Polyethylene Terephthalate:* plastic often used for soda pop bottles, sometimes used for cooking-oil bottles and peanut butter jars.

2 HDPE - *High Density Polyethylene:* plastic used in milk, water and juice bottles, bleach and detergent bottles, margarine tubs and some grocery sacks.

3 V - *Polyvinyl Chloride:* plastic used for window cleaners, some cooking-oil containers and some detergent powders. (PVC has properties of good clarity and chemical resistance which is important for holding household detergents and other harsh materials).

4 LDPE - *Low Density Polyethylene:* plastic used in food packaging, shrink wrap, carry-out bags and heavy-duty bags.

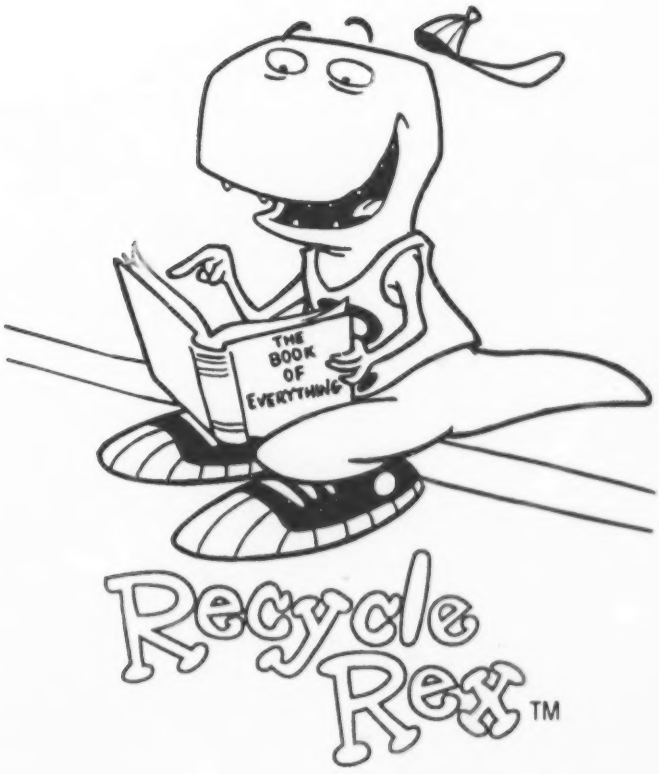
5 PP - *Polypropylene:* plastic found in butter and margarine tubs, yogurt containers, screw-on caps and drinking straws.

6 PS - *Polystyrene* (often incorrectly referred to as Styrofoam, a Dow Chemical brand trademark); versatile resin with a wide range of physical properties. May be clear, hard or in foam form. Plastic found in cutlery and plates, foam coffee cups, egg cartons, meat trays and yogurt cups.

7 OTHER - *Other plastics:* includes containers made of more than one resin type, squeezable syrup and condiment bottles and some microwave food trays.

Definitions adapted from National Polystyrene Recycling Company, ***How-to-Recycle Polystyrene,*** *25 Tri-State International, Lincolnshire, IL 60069. (708) 945-2139.*

Glosario de Terminos y Usos Comunes



GLOSARIO DE TERMINOS Y USOS COMUNES

Aluminum - ***Aluminioun***
metal color plateado, ligero y fuerte hecho principalmente de mineral de bauxita. *(3)*

Bauxite Ore - ***Mineral de Bauxita***
mineral del cual se hace el aluminio. *(2)*

Bimetal - ***Bimetalico***
hecho de dos clases de metales. *(2)*

Biodegradable - ***Biodegradable***
material que se desbarata o descompone naturalmente. *(1)*

Bottom Ash - ***Ceniza Inferior***
la ceniza que permanece después de la incineración. *(2)*

CFCs - *(chlorofluorocarbons)* - ***Clorofluorocarbonos***
un grupo de elementos químicos fabricados que se encuentran en algunos vasos de espuma (unicel), empaque, aisladores, envases de aerosol, y en sistemas de enfriamiento de la mayoría de los sistemas de aire acondicionado y refrigeradores. Los CFC no son biodegradables; éstos destruyen la delgada capa de ozono en la capa exterior de nuestra atmósfera y contribuyen a la retención de calor de la luz del sol en la superficie de la tierra. *(1)*

Close the Loop - ***Completar el Circulo***
la compra de productos reciclados o productos hechos de materiales reciclados.

Commingle - ***Mezclarse***
unirse conjuntamente; entremezclarse; no separar en los materiales reciclables mezclados.

Composting - ***Mezclar (produccion de tierra organica)***
el proceso de combinar materiales orgánicos que se descomponen y producen una tierra fértil (humus). *(2)*

Conservation - ***Conservacion***
el uso apropiado de nuestros recursos naturales.

Contaminants - ***Contaminantes***
materiales que contaminan y dañan nuestro medio ambiente. Cuando la palabra se relaciona al reciclaje: artículos en una carga de materiales reciclables que no son de la misma clase del material de la carga.

Corrugated Paper - ***Papel corrugado (Acanalado)***
papel o cartón corrugado (formado o contraído en surcos y ondas paralelas) como para ser flexible, que se utiliza para envolver o empaquetar. *(3)*

Cullet - ***Vidrio de Desecho***
vidrio pulverizado o triturado para reciclar. *(2)*

Curbside Recycling - ***Reciclaje a la Orilla de la Calle***
los residentes separan de la basura los materiales reciclables predeterminados, y los colocan cerca de la orilla de la calle. Allí, el camión de reciclaje recoge los materiales reciclables.

Decompose - ***Descomponerse***
desintegrarse y pudrirse. *(2)*

Energy - ***Energia***
la habilidad de producir calor o movimiento. Utilizamos la energía para alumbrar, calentar, y enfriar nuestros hogares, y para hacer funcionar nuestros automóviles y aparatos. *(1)*

Environment - *Medio Ambiente*
todas las condiciones, circunstancias, e influencias que rodean y afectan el desarrollo de un organismo o grupo de organismos. *(4)*

Environmentalist - *Ambientalista*
una persona que trabaja para resolver los problemas ambientales, como la contaminación del aire y del agua, el agotamiento de los recursos naturales, y el crecimiento incontrolable de la población. *(4)*

Ferrous Metal - *Metal Ferroso*
metal con base de hierro. *(2)*

Garbage - *Basura*
"desperdicios" o desechos sólidos; cosas que se tiran a pesar de que se pueden volver a usar o de ser reciclables.

Glass - *Vidrio*
un material inorgánico transparente producido al combinar sílice arenosa con cal quemada o piedra caliza y ceniza de soda. *(3)*

Glasphalt - *asfalto de vidrio*
semejante al asfalto, pero utiliza vidrio pulverizado en lugar de grava. *(2)*

Green - *Verde*
la palabra y el color verde son simbólicos para la ecología y el conocimiento del medio ambiente. *(1)*

Hazardous Waste *(toxic waste)* - *Desechos Peligrosos (desechos tóxicos)*
materiales dañinos que se tiran, que son tóxicos, inflamables, explosivos, cáusticos. *(1)*

Humus - *Humus*
materiales orgánicos en descomposición (pasto, hojas, etc.); tierra fértil. *(2)*

Incineration - *Incineración*
el proceso de quemar desechos. *(2)*

Inorganic - *Inorganico*
cosas que no están hechas de substancias vivientes. *(2)*

Integrated Waste Management - *Manejo Integrado de Desechos*
un enfoque al manejo de desechos que incorpora la reducción, reciclaje, transformación, y disposición de desechos. *(6)*

Landfill - *Basurero*
el lugar en donde la basura, desperdicios, etc. se desechan enterrándolos bajo una capa de tierra poco profunda. *(4)*

Leachate - *Lixiviacion (percolacion)*
líquido que se ha filtrado a través de los desechos sólidos y que han sido generados por la descomposición de desechos sólidos y tiene materiales extraídos, disueltos, o suspendidos en el mismo. Este líquido puede contaminar el agua subterránea o superficial. *(3)*

Litter - *Basura Esparcida*
cantidades pequeñas de basura que se han desechado, tirado o desparramado sin preocuparse por disponer de ella de una manera apropiada. La basura esparcida incluye material que se cae de envases, recipientes, vehículos, y paquetes y puede variar desde papel, latas de metal, y botellas hasta refacciones de automóviles y materiales de construcción. *(3)*

Methane - *Metano*
gas que se forma de desperdicios en descomposición. *(2)*

Municipal Solid Waste - *Desechos Solidos Municipales*
desechos sólidos, que no son peligrosos ni agrícolas, generados por residencias, negocios e instituciones. *(3)*

Natural Resources - *Recursos Naturales*
aquellas cosas en nuestro medio ambiente que son naturales; por ejemplo, plantas, agua, y minerales. *(2)*

Nonferrous Metals - *Metales que no son de Hierro*
metales que no contienen hierro, como el aluminio, el cobre y el bronce. *(3)*

Nonrecyclable - *No Reciclables*
la incapacidad de convertir ciertos productos usados en productos nuevos volviéndolos a procesar o a fabricar. *(3)*

PCBs - *(polychlorinated biphenyls) - PCB (bifenilos policlorinados)*
los PCB son un grupo de productos químicos tóxicos que fueron usados en muchos productos industriales, incluyendo transformadores eléctricos y luces fluorescentes. Los PCB son muy venenosos y son difíciles de desechar porque no son fácilmente biodegradables (no se descomponen fácilmente) y pueden permanecer en nuestro medio ambiente durante cientos de años. *(1)*

Petrochemical - *Petroquímicos*
productos químicos hechos de petróleo; utilizados para hacer plástico. *(2)*

Plastic - *Plástico*
cualquier clase grande de mezcla orgánica formada por polimeración; que se puede moldear o formar en varias formas o capas. (Para diferente tipos de plásticos y sus códigos, refierase a pagina 210 en esta guía.)

Pollution - *Contaminacion*
la contaminación de nuestro suelo y agua o aire con materiales dañinos. *(2)*

Precious Minerals - *Minerales Preciosos*
minerales raros y valiosos como mineral de bauxita y carbón.

Recoverable Resources - *Recursos Recuperables*
materiales que, después de servir un propósito específico, aun contienen productos químicos beneficiosos o propiedades físicas y se pueden volver a usar o reciclar para el mismo u otro propósito. *(3)*

Recycle - *Reciclar*
convertir algo viejo en algo nuevo.

Recycling Center - *Centro de Reciclaje*
un lugar donde se recogen y revenden materiales fabricados usados para volverse a procesar. Estos centros incluyen lugares de dejar y donar, comprar, servicio comunitario, y procesamiento. (Para definiciones técnicas, llame al **1-800-RECYCLE** (California solamente).

Recycling Coordinator - *Coordinador de Reciclaje*
el funcionario de la ciudad o el condado responsable de coordinar la reducción de desechos y programas de reciclaje en la ciudad o el condado.

Recycling Operator - *Operador de Reciclaje*
la persona responsable de operar un centro o programa de reciclaje.

Reduce - *Reducir*
disminuir la cantidad de desechos generados.

Refuse - *Desperdicios*
cualquier cosa que se tira o desecha por considerarse sin valor o sin uso; desperdicios; basura; desechos. *(4)*

Resin - *Resina*
substancias orgánicas, naturales utilizadas en barniz, tinta, plásticos. *(3)*

Resource - *Recurso*
algo que se encuentra en la naturaleza y es útil. Un recurso renovable es un recurso que se puede reemplazar. El terreno apto para el cultivo, los peces y los bosques se pueden renovar si se utilizan debidamente. Un recurso que no es renovable es uno que no se puede reemplazar. Los minerales subterráneos incluyendo metales y combustibles fósiles no son recursos renovables. *(1)*

Resource Recovery - *Recuperación de Recursos*
un proceso que extrae valor de la corriente de desechos en la forma de materiales, energía, o combustible. Involucra el uso de alta tecnología para quemar desechos sólidos mixtos para producir energía y, en algunos casos, combustible industrial. La recuperación de recursos puede involucrar la separación mecánica de cosas reciclables antes o después de quemarlos. *(3)*

Reuse - *Volver a Usar*
el utilizar productos de nuevo, ya sea para el mismo propósito o para otro uso. *(2)*

Slurry - *Pasta Aguada*
una mezcla líquida espesa; normalmente la substancia pulposa hecha para hacer papel. *(2)*

Solar Energy - *Energía Solar*
la energía del sol. Al girar nuestro planeta alrededor del sol, los rayos solares lo calientan y proporcionan la energía necesaria para mantener la vida. Los científicos están trabajando en receptores solares que capturarán la energía solar, para que podamos utilizarla para impulsar nuestros autos, operar nuestras fábricas, y calentar o enfriar nuestros hogares. La energía solar es renovable y no produce desechos dañinos, por lo que se le llama energía limpia.

Solid Waste - *Desechos Sólidos*
basura, desechos, desperdicios; los materiales que tiramos.

Solid Waste Management - *Manejo de los Desechos Sólidos*
el manejo seguro y sanitario del nuevo uso o la disposición de material que se ha procesado por lo menos una vez. *(3)*

Source Reduction - *Reducción de Recursos*
la disminución de la generación de desechos en su origen (por medio del manejo y planificación apropiados).

Waste - *Desechos*
desperdicios superfluos, restantes; que ya no tienen uso. *(3)*

Waste Disposal - *Disposicion de Desechos*
la asimilación de materiales de desechos en el medio ambiente sin ocasionar daños inaceptables. *(3)*

Waste-to-Energy - *De Desecho a Energía*
el proceso de quemar desechos para producir energía/ electricidad. *(2)*

Waste Hauler - *Acarreador de Desechos*
una compañía especialmente equipada que recoge desechos sólidos para disponer de éstos. *(2)*

Watershed - *Cuenca*
el área desaguada por una red de arroyos, corrientes, lagos, y ríos. Las cuencas proporcionan agua potable para las ciudades. Algunas cuencas han sido contaminadas por basura y aguas negras. *(1)*

Windpower Energy - ***Energía por Viento***
los molinos de viento capturan la energía del viento. Cuando los molinos de viento giran, pueden producir electricidad. Esta electricidad se puede utilizar directamente o almacenarse en baterías y se puede utilizar después, aun cuando el viento pare. Algunas personas utilizan molinos de viento para generar energía en sus hogares. La energía del viento es energía limpia y renovable. *(1)*

Woodpulp - ***Pulpa de Madera***
fibra de madera separada por medios mecánicos o químicos, utilizada para hacer papel y otros productos. *(3)*

OBRAS CITADAS

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(6) California Integrated Waste Management Board. 8800 Cal Center Drive, Sacramento, CA 95826.

DIFERENTES CLASES DE PLÁSTICOS Y SUS CLAVES DE RECICLAJE

1 PETE - *Polietileno Tereptalático;* plástico utilizado frecuentemente para botellas de bebidas gaseosas, algunas veces utilizado para botellas de aceite para cocinar y envases para mantequilla de cacahuate.

2 HDPE - *Polietileno de Alta Densidad;* plástico utilizado en botellas para leche, agua, y jugos, botellas para blanqueadores de cloro y detergentes, envases para margarina y algunas bolsas para comestibles.

3 V - *Cloruro Polivinílico;* plástico utilizado en evases para limpiadores de ventanas, algunos aceites para cocinar, y algunos detergentes en polvo. (El PVC tiene características de buena claridad y resistencia química lo cual es importante para contener detergentes y otros materiales ásperos domésticos).

4 LDPE - *Polietileno de Baja Densidad;* plástico utilizado para el empaque de comida, envoltura que se contrae, bolsas para llevar, y bolsas gruesas y resistentes.

5 PP - *Polipropileno;* plástico que se encuentra en los envases de mantequilla y margarina; envases de yogur, tapaderas que se enroscan, y popotes (pajitas o carrizos) para beber.

6 PS - *Polistereno* (frecuente e incorrectamente llamado en inglés "Styrofoam" y en español "unicel", una marca de Dow Chemical); resina versátil con una extensa gama de propiedades físicas Puede ser claro, duro, o en forma de espuma. El plástico que se encuentra en cubiertos y platos, vasos de espuma para café, cajas para huevos, charolas para carnes, y vasos para yogur.

7 OTHER - *Otros plásticos;* incluyen los envases hechos de más de una clase de resina, botellas que se exprimen para miel y aderezos (condimentos), y algunas charolas (bandejas) para comida para horno de microondas.

Definiciones adaptadas de la publicación ***How to Recycle Polystyrene*** *de la Compañía de Reciclaje de Polistereno (National Polystyrene Recycling Company). 25 Tri-State International, Lincolnshire, IL 60069. (708) 945-2139.*